

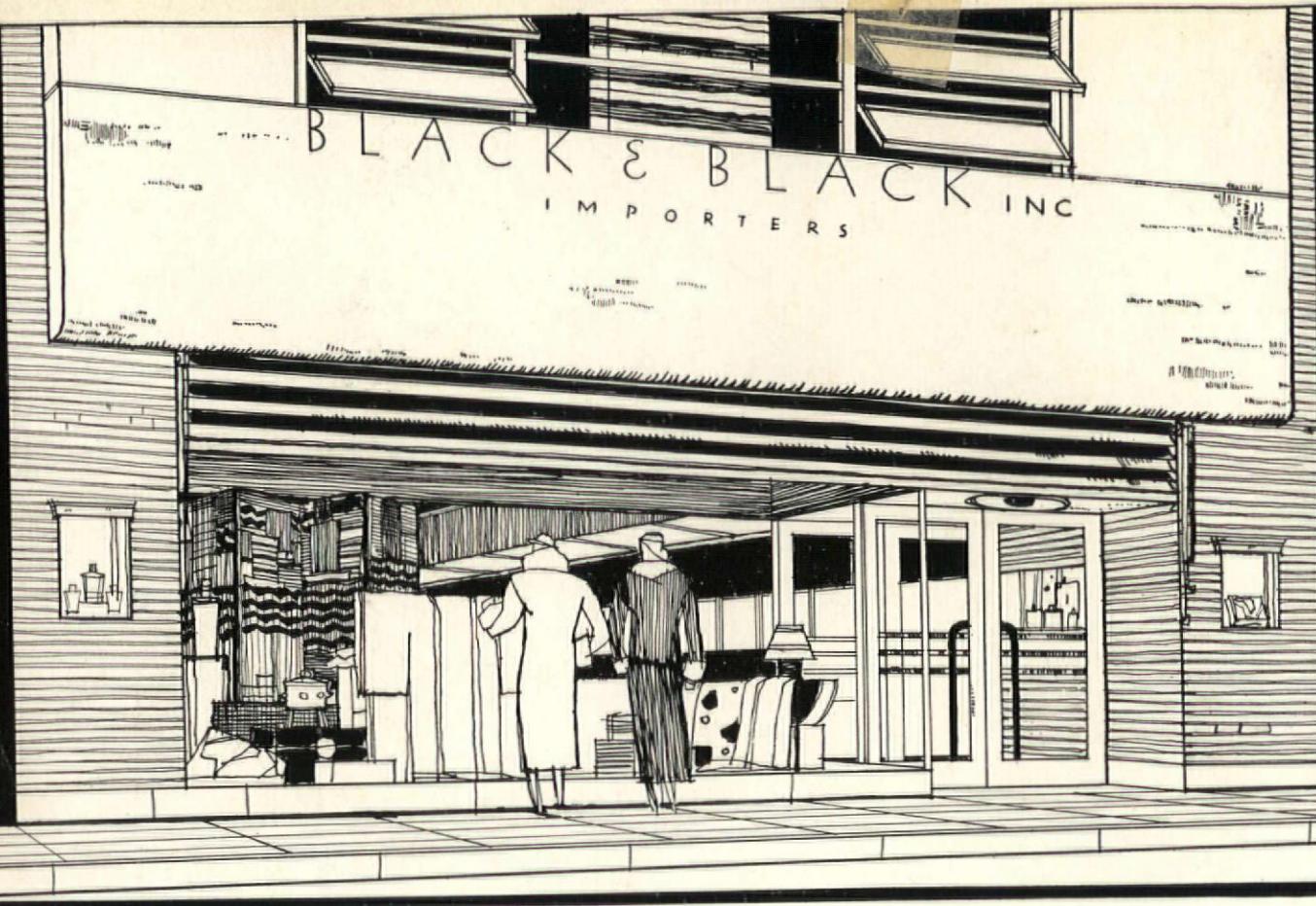
THE  
ARCHITECTURAL  
FORUM

3526

INCLUDING "BUILDING MONEY"

JANUARY, 1934

NEW MURALS BY DIEGO RIVERA



## MERCHANDISE SPARKLES IN AN ALCOA ALUMINUM SETTING

There's an attractive come-hither brightness, a smart note of modernism in a store front of ALCOA Aluminum. That's why so many leading shops have gone in for them.

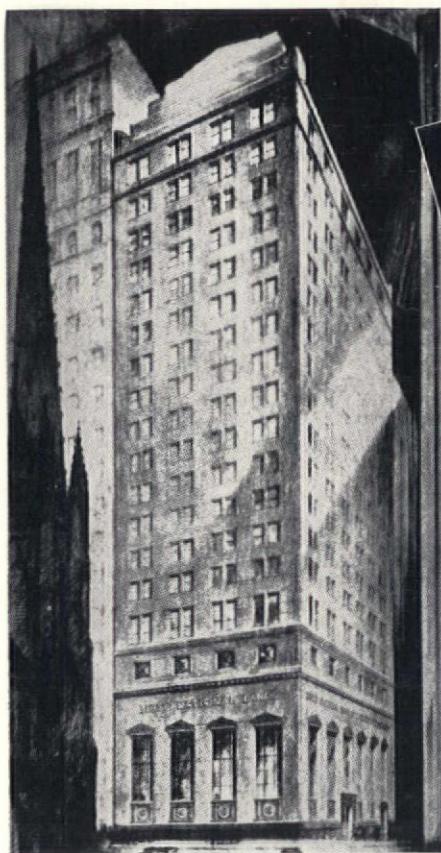
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For all decorative architectural work, for all details where light-weight and corrosion-resistance are important, specify ALCOA Aluminum Alloys. Every architect's office should have our book, "Aluminum in Architecture", which contains 234 pages of pertinent information and design details on the many architectural uses of ALCOA Aluminum. Address: ALUMINUM COMPANY OF AMERICA; 1866 Gulf Building, Pittsburgh, Pennsylvania.



# ALCOA ALUMINUM

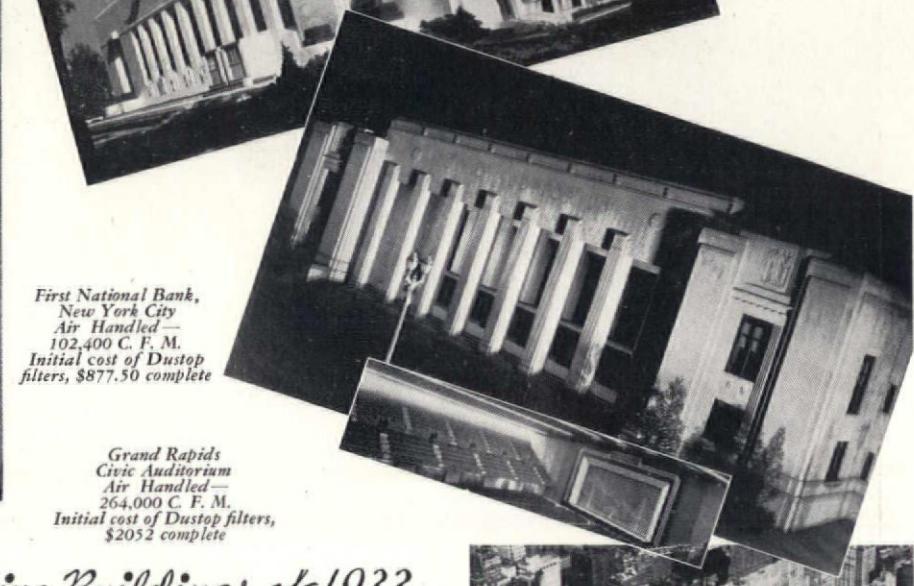


First National Bank,  
New York City  
Air Handled—  
102,400 C. F. M.  
Initial cost of Dustop filters,  
\$877.50 complete

Grand Rapids  
Civic Auditorium  
Air Handled—  
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Folger Shakespeare Library,  
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Initial cost of Dustop filters,  
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## The outstanding Buildings of 1933 *All* DUSTOP EQUIPPED!

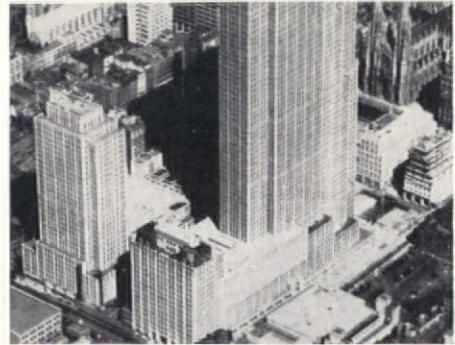
—Clean air at low installation cost  
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● An epoch-making year is past. In the architectural and building fields, of great significance are the tremendous strides accomplished by the Dustop glass wool air filter. Dustop installations in prominent commercial and industrial buildings—wherever air is mechanically circulated—testify to the *low cost and high efficiency* of this airfilter.

These features explain Dustop's position as today's outstanding air filter: (1) *high efficiency* in removing 96-98% of the dirt, dust, pollen, bacteria and other impurities from circulated air; (2)

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Radio City, Air handled—277,600 C. F. M.  
Initial cost of Dustop filters, \$2425.00 complete

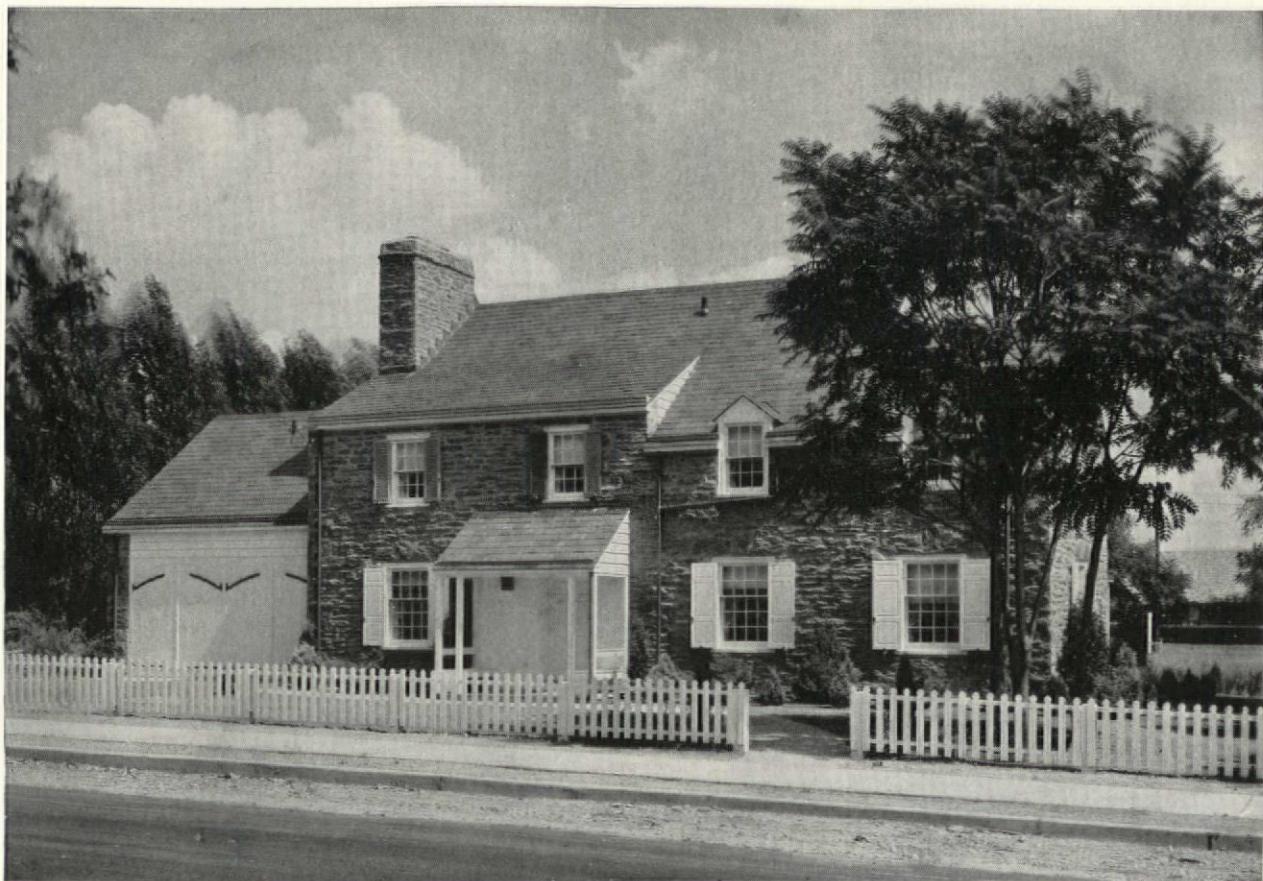
Standard, Commercial  
Dustop Glass Wool Air  
Filter Unit.



# OWENS-ILLINOIS AIR FILTERS

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VOLUME LX  
Number 1



*Richard W. Mecaskey, Architect*

"THE HOME OF  
CONTROLLED CLIMATE"

*(described in this issue)* has a

**B R Y A N T**      P R E P A R E D A I R  
S Y S T E M

Description, photographs and  
diagrams are on pages 33-36 of  
this issue • Bryant air conditioning  
engineers are in 40 cities. • Write

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# 1934

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a TROY MACHINE..."*

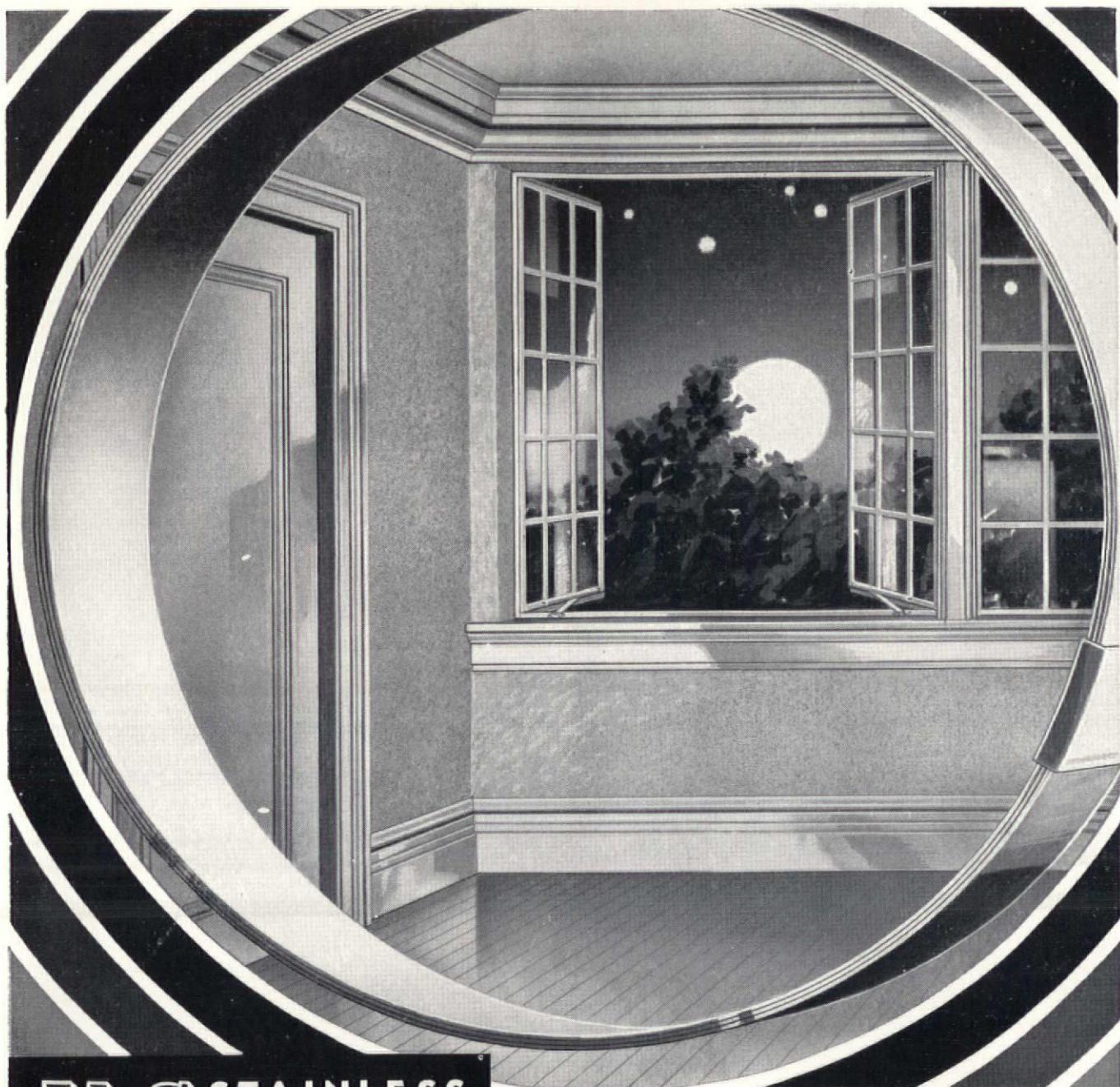
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Heat Resisting  
ALLOY STEELS**

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Let imagination soar! Tomorrow's architectural triumphs will be realized by men of vision. Foremost in their specifications will be alloy steels that defy corrosive elements.

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1831



1934

# AMERICAN STEEL & WIRE COMPANY

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94 Grove Street, Worcester

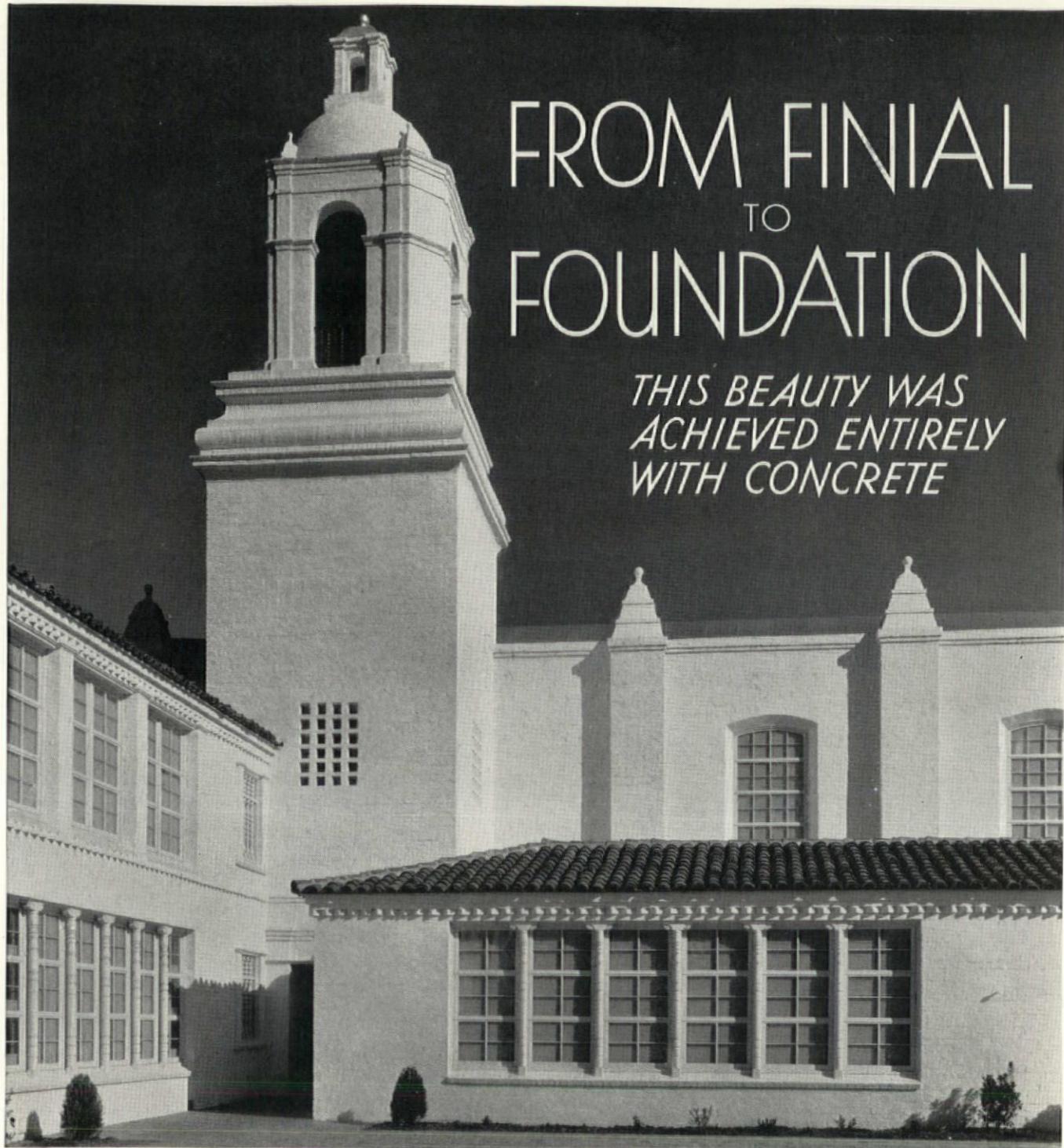
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Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco AND ALL PRINCIPAL CITIES Export Distributors: United States Steel Products Company, New York



The Mariano Guadalupe Junior High School, Vallejo, California. *Architect:* Frederick H. Reimers. *Structural Engineer:* Norman Green. *Contractors:* San Francisco Construction Company.

Here the architect desired a masonry unit which in size and shape would conform to the Spanish tradition. Concrete tile was the logical choice. • Not only does it create an interesting and appropriate wall texture, but it is permanent, and low in cost. Concrete tile has ample structural strength for bearing walls of this height—another material factor in keeping costs down. • All ornament on this school is of pre-cast concrete. First floors are concrete. Portland cement mortar was used throughout. • Concrete tile is one of many forms in which concrete masonry units are obtainable. Houses, commercial buildings or public structures, may be built of concrete masonry, successfully and economically. We will be glad to supply further information upon request.

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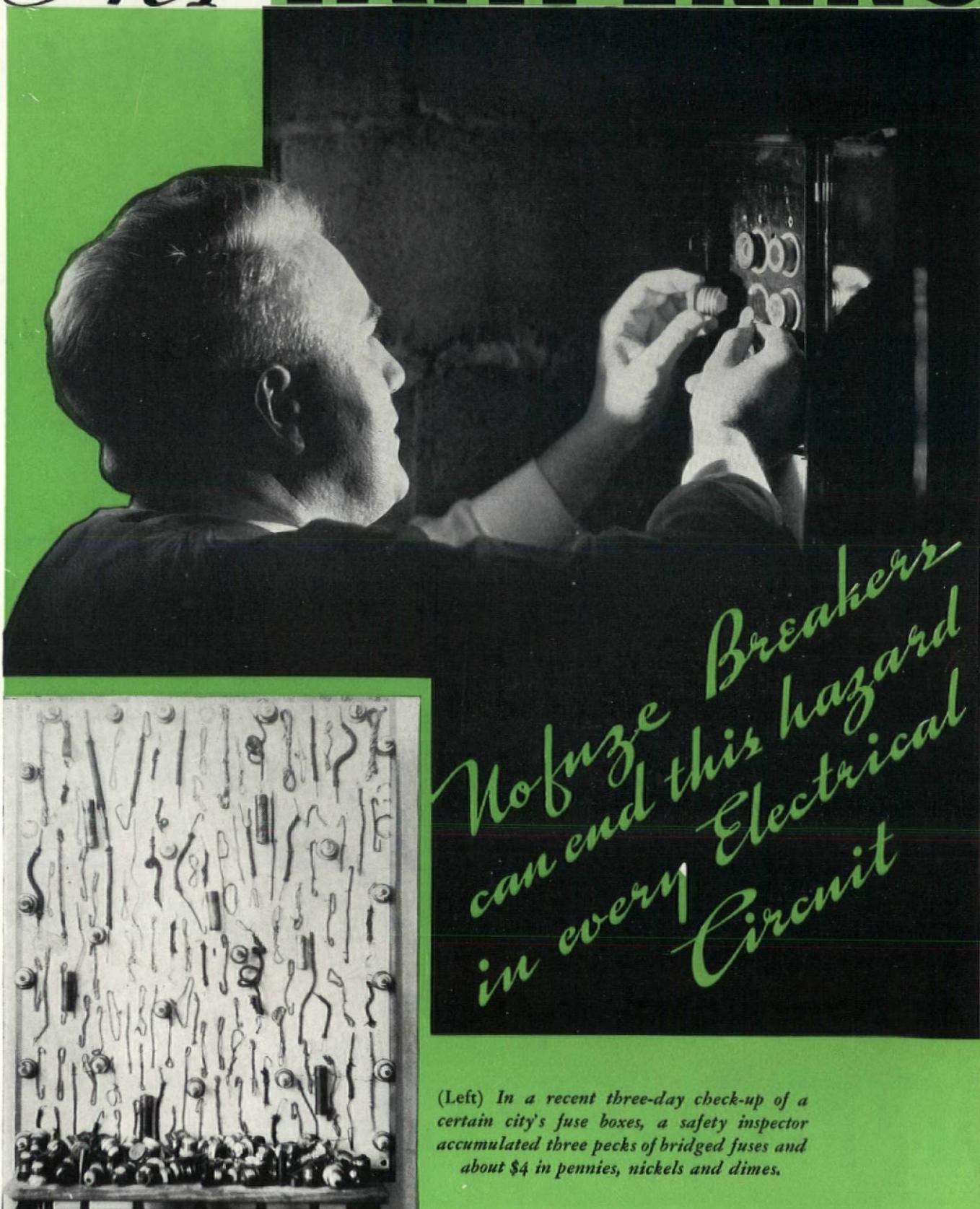
Efficient and well planned structures of the future will obtain the full approval of their sponsors if the specifications for the piping call for NATIONAL. The use of NATIONAL Pipe means more economical operating costs for the owner because it gives lasting, uninterrupted service. It also results in better profits for those who install it because of its smooth, easy working qualities. This is why it has been so universally accepted and so generally used in America's Public Buildings.

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# NATIONAL PIPE

# He's TAMPERING



*Mobilize Breakers  
can end this hazard  
in every Electrical  
Circuit*

*(Left) In a recent three-day check-up of a certain city's fuse boxes, a safety inspector accumulated three pecks of bridged fuses and about \$4 in pennies, nickels and dimes.*

# with a Building's Safety NOFUZE PROTECTION IS TAMPER-PROOF!

**I**N any building you design . . . when someone tampers with the fuse box by bridging burned-out fuses with pennies, paper clips or other electrical conductors . . . he is endangering the building's safety, because the protection of the wiring circuits has been destroyed.

Westinghouse Nofuze switchboards and panelboards and Load Centers (for homes) eliminate this hazard. They are tamper-proof. Their protection is permanent. "De-ion" breakers, in place of fuses, guard each circuit—there is nothing to burn out or replace. The breakers are accurately calibrated at the factory and sealed in a molded housing to make tampering impossible. Also, the breaker's opening action cannot be blocked because it trips free from the switch handle.

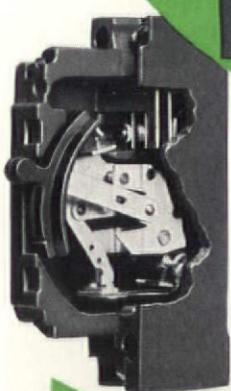
#### Time of Circuit Outage Reduced

When a dangerous overload occurs, a mere flip of the circuit breaker handle restores service at once. No time is lost searching for the blown fuse, no groping in the dark to solve baffling fuse-box problems.

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The use of "De-ion" circuit breakers eliminates the expense of fuse replacements—a costly item in commercial buildings with hundreds of branch and main circuits.

Let us tell you about all the advantages of fuseless wiring protection and give you information that will be helpful in writing wiring specifications. Just mail the coupon.



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Position ....., T 79856

Address ....., AF 1-34



## Westinghouse

Quality workmanship guarantees every Westinghouse product

# C O R R E S P O N D E N C E

## Belittling Architects

### Forum:

When I saw in a recent issue of *Time* magazine the statement that architects are magicians and the statement proved by illustrations of remodeled buildings, I thought it was one of the best pieces of justified publicity that the profession had ever received.

It has also been very gratifying to see *Fortune* and *FORUM* pointing out to their readers the value of architects' services. I say value because it was not only implied but evident that architects' services have a very definite value.

Now *THE FORUM* comes along and publishes a competition, open to all architects in the country, for plans for remodeling, or a new building, on a plot in the heart of New York City, 204 feet on Broadway, 27,000 sq. ft. in area, the prize winning designs to become the property of a real estate speculator for the total sum of \$1,000.

To make matters worse, the name of the American Institute of Architects appears prominently in the program by having the President of the New York Chapter acting as one of the jury.

This piece of publicity belittles the real value of architects' services more than anything I have ever seen. It is certainly in direct violation to the architects' code of fair practice, contrary to the Institute's competition code, and is very misleading to the public as to the amount of work and study which an architect has to do in order to correctly solve any given problem.

I notice also in the same *FORUM* that the N. J. Chapter and the N. J. Society of Architects express their appreciation for the favorable publicity given to the architectural profession in *Time* and *Fortune*. I quite agree with that sentiment, but what about this competition? If owners are going to resort to this method of getting their plans, the profession might as well go out of business. No architect could afford to maintain an office on this basis of remuneration.

The New Jersey Chapter has fought long and hard to get public recognition of the individual architect as against unfair competition and stock plans.

Your associated magazines were very encouraging to us. Now our hopes are blasted.

It seems to me that immediate steps should be taken to correct the damage by wide publicity, and that the Institute should make its position very clear regarding this very unfortunate occurrence.

In this same issue Kenneth Murchison says "The architectural sweat shop must go." On the basis of this competition it

"will go," but into the offices of speculators and real estate operators.

CORNELIUS V. R. BOGERT  
*Hackensack, N. J.*

Let it be repeated that the sponsors of the competition could not guarantee that the winner would be awarded the commission to design a building as the sponsors are not the owners of the property (page 8, December, 1933, *FORUM*). The fact that over a hundred architects and designers entered the competition indicates that it was welcomed by the profession. The competition was not for designs for an actual building, or to select an architect for a building. The competition falls in exactly the same category as recognized competitions for small houses and airports, where the erection of an actual building is not involved. We welcome a full discussion of the competition from architects, both members and non-members of the A. I. A. — Ed.

## Profession Sidetracked

### Forum:

I do not know what the attitude of the local CWA Boards might be in other States but in Massachusetts it seems to be that architects are needless adjuncts to a building project.

In fact, the remark has been made that architects are worth \$35 per week, and that buildings can be done without plans.

The lawyers and politicians on these Boards should be enlightened and a protest lodged with the proper authorities. If this is not done, the members of the profession are going to be completely sidetracked.

S. S. EISENBERG  
*Boston, Mass.*

THE ARCHITECTURAL FORUM is sent each month to over 500 public officials in order to emphasize the value of architectural service. — Ed.

## No Comparable Issue

### Forum:

I should like to express my appreciation of the November issue of *THE FORUM*. I have not seen in recent years a single issue of any architectural magazine comparable to this particular number. The *MASTER DETAILS* feature is a very worthy one and I hope that it may be possible for you to give us many more numbers showing actual details of construction.

I cannot refrain from commenting upon the excellent houses which you have chosen to represent the traditional styles. As I see architecture, they are all good. I must admit, however, that the modern house jars me considerably. To save my esthetic soul

I cannot see anything in any of them comparable to the traditional styles.

ERNEST LANGFORD  
*College Station, Texas*

### Forum:

I am taking this occasion to write to compliment you on your *MASTER DETAIL SERIES* in the November issue . . .

My own test of the value of material in architectural publications is the filing. This material shall certainly find its way into my files.

WALDRON FAULKNER  
*New York City*

### Forum:

THE FORUM is being refined and improved by such leaps and bounds lately that it is breath-taking and especially exhilarating at this time when there is so little action in the architectural field. The *MASTER DETAIL SERIES* will be of very constructive value. The "New Houses From Old" also.

ELEANOR RAYMOND  
*Boston, Mass.*

## "Time" Campaign

### Forum:

The Directors of Northern California Chapter, the American Institute of Architects, commend, most highly, your endeavor to instill a wider interest in good architecture through matter appearing in *Time* and *Fortune*. I am requested to inform you of their keen appreciation of this effort to create an intelligent public understanding of the architect and his work.

JAMES H. MITCHELL, *Secretary*  
*Northern California Chapter*  
*American Institute of Architects*

## Morale Stimulus

### Forum:

Each number of *THE ARCHITECTURAL FORUM* does much to stimulate all the architects, whose morale is quite low . . .

The supplement to the November issue gives us more hope. You are to be congratulated and gratefully thanked for this splendid publication.

CHARLES C. COLMAN  
*Cleveland, Ohio*

## Associate Gallimore

### Forum:

The Philip Warner house appearing in the November issue of *THE FORUM* has made mention of my name as architect. As this house was done in association with Mr. R. A. Gallimore it would be appreciated if you could make mention of this fact in a future issue.

FRANK J. FORSTER  
*New York*

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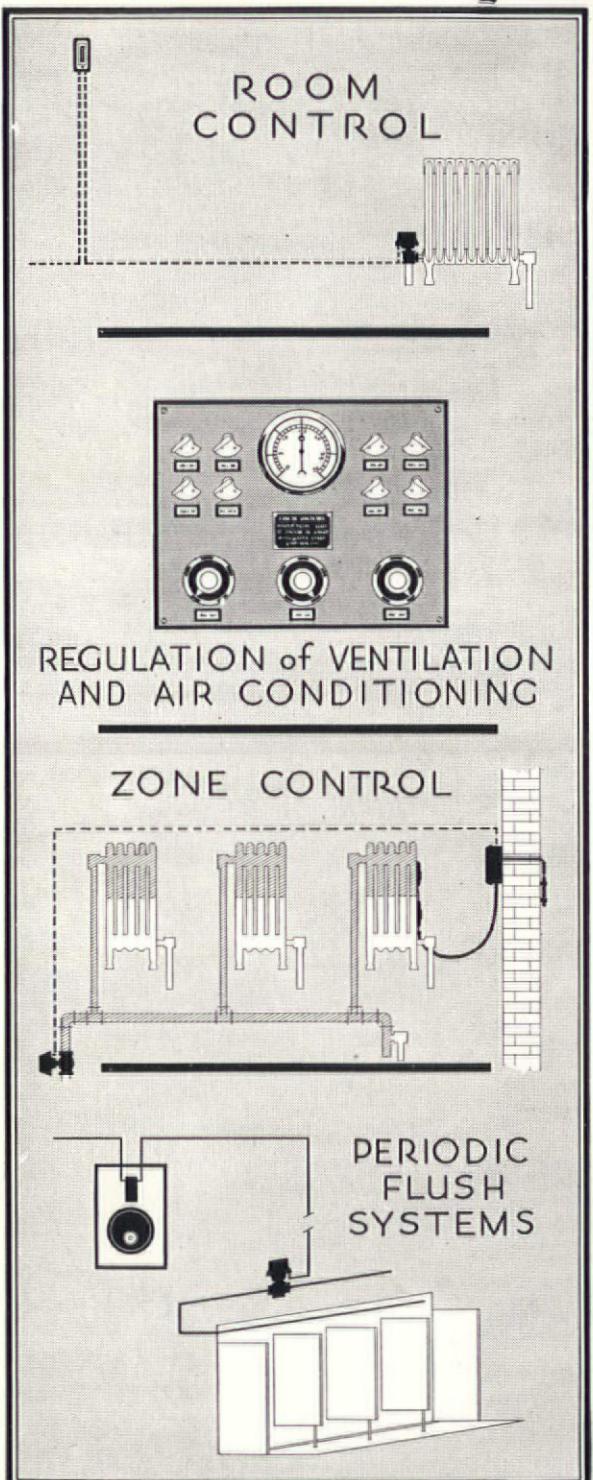
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## JOHNSON HEAT CONTROL

# C O R R E S P O N D E N C E

## NEW HOUSES and Other Buildings FROM OLD

### Forum:

May I take this opportunity to express my appreciation of the most remarkable attitude THE ARCHITECTURAL FORUM has taken in establishing the usefulness of the American architect. I have noticed for the past several months full page advertising in prominent magazines, such as *Fortune* and *Time*. I cannot help but feel that the men behind this movement certainly possess a foresight very uncommon in most magazine publications.

I have also carefully read your "New Houses From Old." It is, I feel, the finest and most honest piece of advertising in regard to architecture that I have ever read. Enclosed is a list of clients to whom I wish it sent. I shall make it a point to talk to everyone of them about it. Thank you again for your unselfish attitude and helpfulness.

JEROME ROBERT CERNY

Chicago, Ill.

### Forum:

I wish to express my appreciation of this most generous proposal to send out "New Houses From Old." I think that every subscriber should applaud the efforts you are making to stimulate building and feel that the material contained and so well presented in this seventy-four page brochure will be a revelation to a great many people and should promote business in this line.

WALTER P. CRABTREE

Hartford, Conn.

### Forum:

Personally I think this is a great idea of yours and I for one would gladly pay any extra expense involved if you decide to make it an annual or even a quarterly arrangement. Why not send a questionnaire to the registered architects on your subscription list and obtain their reaction on the type of material to be included in future, I hope, supplements? The present remodeling supplement is, of course, most timely, but an issue on residential work alone would be acceptable to about 90 per cent of the clients of the average architect at all times.

C. HOBART SHERWOOD

New York City

### Forum:

I congratulate THE FORUM, both on this latest achievement, and on its consistent policy of advancing the interests of the architect through intelligent publicity, not in the professional magazines that only the architect reads, but in journals having a wide circulation among every group. I have no doubt that its efforts will play a

substantial part in bringing new work to us. It is a program entitled to the support of every progressive architect.

W. BRADFORD SPROUT, JR.

Hingham, Mass.

### Forum:

Your offer to mail out supplements to the November FORUM is a generous one and I believe it will produce surprising results. At least you are to be commended for trying to help the architects. At this time the morale of the architects is about the lowest it has been. There is no private work in sight unless your efforts are fruitful, and the Government work seems to be lagging.

ARTHUR E. THOMAS

Dallas, Texas

### Forum:

I wish to commend your organization for the fine work you are doing in behalf of the architectural profession. It is only through such effort that the value of an architect can be made known to the public. You have the full support and gratitude of every one connected with the profession.

ROLAND ARNETT YAEGER

Rochester, N. Y.

### Forum:

I am sure the entire architectural profession appreciates your efforts to stimulate work in their field and you are to be commended for the work you are doing. Please accept my thanks for the privilege of having ten copies mailed to my clients and prospects.

H. L. EKSTRAND

Waukegan, Ill.

### Forum:

"New Houses From Old" is not only very interesting but should prove a valuable sales help in the case of many clients who are on the fence. In accordance with your generous offer below is a list to which I would like copies sent. As there are eleven names on the list, I am enclosing 40 cents for the copy in excess of my allotment.

LAURENCE M. LOEB

White Plains, N. Y.

### Forum:

After having studied your supplement "New Houses and Other Buildings From Old," I must say that I believe this move on your part to be the best advertising for the architectural profession that has been made, especially here in my territory, where architects have been considered unnecessary.

I am therefore giving you the names of the following prospective clients as I am a little too young as a practicing architect to have a very long list of ex-clients.

I have some work in the offing which, if things break, will put me on even keel again.

I was with the office of a FORUM subscriber, Mr. Charles M. Baker, 25 Arch Street, Boston, Mass., for many years but as that office has gone I struck out for myself, and as I have known this wonderful magazine for so many years as a draftsman and as you have been so encouraging to a "new architect" through these disheartening times, I shall always consider THE ARCHITECTURAL FORUM as more than a magazine.

ERNEST G. FRIZZELL

Woburn, Mass.

### Forum:

Since our letter to you requesting the mailing of three copies of "New Houses From Old," we have given the matter further consideration and wish to order 37 additional copies. We enclose our check covering the 30 copies above our allotment.

May we express our appreciation of your continued effort in behalf of the architects to bring before the public the possibilities of alteration work.

EDWIN H. SILVERMAN & ABRAHAM LEVY

Philadelphia, Pa.

### Forum:

We are in receipt of the special 74-page remodeling supplement, "New Houses and Other Buildings From Old," sent to us with our copy of THE ARCHITECTURAL FORUM, and we think it is one of the finest things of its kind that has come to our notice, and a most excellent and apropos subject for this particular period.

We consider it very generous on your part to allot to us ten copies of this supplement to be distributed by you to persons of our choosing, and herewith submit a selected list of names of persons we feel would be appreciatively interested.

JOHN AND HOWARD STEVENS

Portland, Maine

### Forum:

We wish to compliment you very highly on the 74-page supplement, "New Houses and Other Buildings From Old" which we have received with our current issue of your magazine. We believe that it tells a very important story in an unusually graphic and effective manner, and appreciate very much the opportunity you have given us to send this to some of our clients.

ESCHWEILER & ESCHWEILER

Milwaukee, Wis.

### Forum:

We are pleased to accept your generous offer on the fine remodeling supplement "New Houses From Old." We send herewith a list of past, present and potential clients to whom we would appreciate your sending it.

We have carefully chosen these names and know each controls a rather wide circle including their own problem.

GRANGER & BOLLENBACHER

Chicago, Ill.

# Announcing A New Architect's Manual on GRADED WIRING SYSTEMS

**T**HE new Architects' Manual is a revolutionary advance in the planning of electrical wiring specifications. It has been developed in a simple, logical manner by General Electric Company so that it will save time, eliminate oversight of important details and assure a wiring installation of the exact character demanded by the building it serves.

The specifications are graded for a selection of three standards of materials, depending on the character of the building and the service to be rendered. Each "Graded Wiring System" is based upon modern standards of design that are recognized as sound by high electrical authorities. The standards are adaptable to any size and character of building.

You will be interested in these Time-saver Specifications as they really save time and are the result of most serious study by electrical engineers to develop specifications which will meet your needs.

If you would like to have further information about this new service for architects, write to Section CDW-701, Mdse. Dept., General Electric Co., Bridgeport, Conn.

#### G-E Code Grade Wiring System . . .

For low cost and temporary buildings, complying with new N. E. Code.

#### G-E Supr-Kode Grade Wiring System . . .

For up-to-date buildings, demanding modern convenience and adequacy.

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For enduring structures, requiring the finest wiring system available.



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1934 SWEET'S

THIS 44 PAGE MANUAL CONTAINS  
COMPLETE DESIGN STANDARDS AND  
TIME-SAVER SPECIFICATIONS FOR G-E  
WIRING, GRADED ACCORDING TO  
TYPE AND QUALITY OF BUILDING.

**GENERAL ELECTRIC**  
WIRING MATERIALS

MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

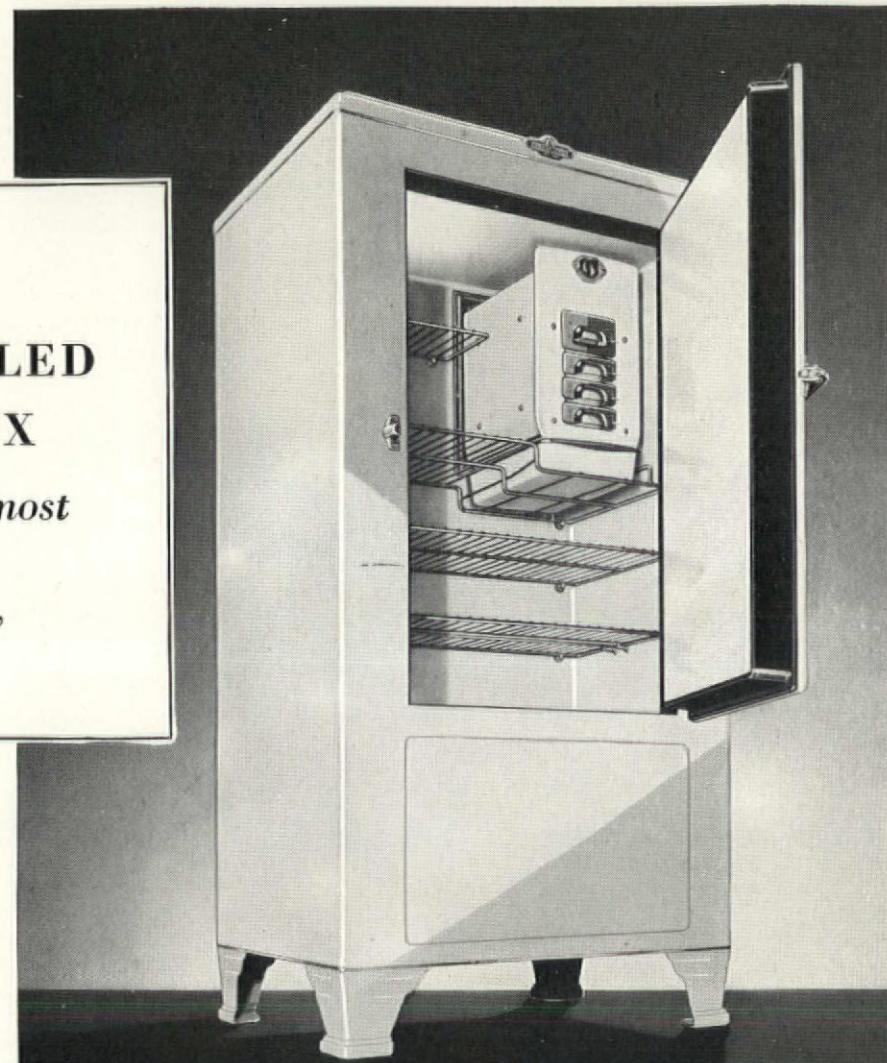
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HERE is the verdict of owners and operators who last spring and summer installed the New Air-Cooled Electrolux in their apartments and homes. Throughout a summer that broke fifteen-year heat records, Electrolux gave more than satisfactory service . . . backed up every claim ever made for it!

And with good reason! The outstanding performance which you can expect from Electrolux is the direct result of its important simplicity of operation. Electrolux has no moving parts. A tiny gas flame circulates the simple refrigerant which produces constant cold.

Electrolux will appeal to you because with no moving parts there's nothing about it to wear . . . nothing



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**THE  
ARCHITECTURAL  
F O R U M**

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THE  
ARCHITECTURAL  
FORUM

VOLUME LX

JANUARY 1934

NUMBER ONE

SLOW-BREAKING DAWN

IN July of the year now gone but not forgotten, there were visions of thousands at work building structures of economic and social import, building new homes for the "lower-income group." Hopes were high that the Public Works Administration would put the industry back on the job by winter — that with three billion they could "shoot the works." Today willing workers still huddle hungry in the slums that were to be cleared. The millions of dollars announced by the PWA as "allotted" to building projects implied to the public that millions were being spent. Not one million has yet been spent on materials and labor for slum clearance and housing. Recovery and reemployment through building low-rental homes is not yet a fact, but it is still the potential primer of industry. Then why the delay? The public wants to know, the profession knows — knows some of the obstacles, the time-consuming work that must precede the pick and shovel that bring new purchasing power.

Men could have been put to work immediately making a comprehensive Survey of Needed Buildings.\* The first mandate of the Recovery Act was "to prepare a comprehensive program." Following the failure of the A.I.A. and the construction industry organizations to seize this survey opportunity, and the failure of the PWA to undertake it through its Planning Board, it remained for courageous Civil Works Administrator Hopkins to put men to work on a national survey to determine actual conditions.

Of course, an organization to spend three billion dollars cannot be set up in a day. The personnel was chosen with all possible speed, the policies determined, the procedure worked out, projects received, examined, passed upon, and tentative allotments made — *subject to the execution of satisfactory contracts with the Government*. The delay in making these tentative allotments for building projects discouraged the entire industry, — the delay in executing these "satisfactory contracts" is causing despair. Men cannot be put back to work by legalistic quibbling over clauses, endless involved provisions, elaborate procedures of reports and approvals, passing responsibility for action

up and down the line. Cautious officials and employees intent on safeguarding the money the Government must spend, can too easily forget that this is an emergency; war, — war on unemployment, buildings are wanted not bureaus, pay envelopes not red tape.

FOR four months the Government's Housing Division of the PWA was hoping that private-initiative operating limited dividend corporations would produce the requisite projects, would come with plans and property, financial set-ups and proof of needs. Some three hundred applications for loans were made, weighed and (in 90 per cent of the cases) found wanting — wanting "enough equity," "a demonstrated need," "lower rents," "suitable locations," "better planning." Proponents of projects did not know what the Government demanded for its loans. Only a clear statement of policy and requirements for approvals can stop architects and promoters from wasting their time and money developing schemes that will not qualify for Government loans.

Convinced that private initiative is not enough, the Housing Division has developed its personnel, determined new and definite policies, set up its corporation to initiate and complete action. The study of needs, the search for suitable sites, are still going on; the ways and means are being developed; public and political opinion is being molded; housing-consciousness is being awakened in every locality.

The country cries for action. It is time that the Housing Division made use of its new and almost unlimited powers to start the actual slum clearance and housing program without waiting for projects to be submitted by others. The building industry needs construction contracts not tentative allotments. Local cooperation is assured for any sound housing initiated by the Government's action. Initiative is needed and needed now, action by those empowered by the law to act. 1934 must see the dawn of a new housing era.

*Kenneth K. Stovall*

Editor

\* THE ARCHITECTURAL FORUM, June, 1933, pages 445-452 and 479. Also, August, 1933, page 13.



# DIEGO RIVERA

by

ERNEST BORN

**D**iego Rivera was born in Guanajuato, Mexico, December 8, 1886 of a middle class family, intellectually progressive and advanced, whose fortune had declined from other grander days when their silver mines had given rich yield, to one of slender means. The father, a mine owner and assayer, was also interested in the education of the lower classes and in this field was active as a leader and director of a normal school, and later as inspector of schools succeeded in organizing and establishing the first rural or peasant schools in Mexico, a great task indeed for its day.

Reared then in a family where social, political and economic discussions, applied and in abstract, were the common daily fare, Diego the child at an early age became aware of the problems that later were to be the theme of his art. He started to draw at three the scene of his life with its surrounding strife and tragedy—mine machinery, buildings, laborers, soldiers, battles, victory, defeat—all drawn on the walls and floor of the room that his father gave him for this purpose. The worker became his passion. Soon financial and political reverses brought complete ruin for the family and it moved to Mexico City where Diego was introduced to city schools. These were so distasteful and depressing to him that he was not

long required by his father to attend. His other interest, things military, and his natural precociousness which had won for him a reputation of "wonder child" gained for him admittance to the National Military School at the age of twelve instead of the usual age of eighteen, where he received a lieutenant's commission.

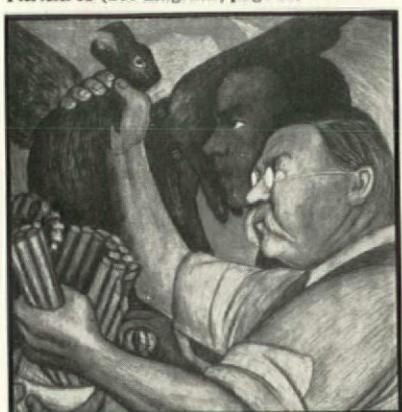
Diego determined to abandon a military career in favor of painting and commenced serious study at the School of Fine Arts in Mexico City. Here he became acquainted with Jacques Reboull, pupil of Ingrés, José María Velasco, Félix Piarrá, and last, José Guadalupe Posada whom Diego Rivera considers the greatest artist of Mexico.

In 1906 Rivera went abroad to study the modern painters, working in France, Belgium and England, returning via Spain to Mexico in 1910. At this time the Diaz revolution occurred and made a deep impression on the young painter. The life and scenes about him moved and affected him with a daring theory—that no manner of painting thus far developed by the masters was capable or adequate to express this social struggle and upheaval. He returned to Paris, this time with a definite purpose. He experimented with various techniques and manners and in 1914 had his first exhibition in Paris. Then came the War and acceleration and crystallization of his theories. In 1920 Rivera was in Italy making sketches and studies from the old masters' frescoes and concentrating his attention upon mural painting.

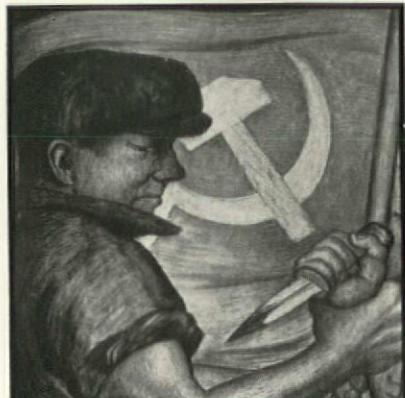
September 1921 saw him back in Mexico at the beginning of his career as a painter of great mural decorations. Cubism, Impressionism, post-Impressionism and the other isms were put aside as being esthetically unfit for the social role that he intended to put his art to. Vast spaces were covered and ideas clarified. In 1927-28 he was in Soviet Russia but returned to Mexico to carry on with his labors there. After a stay in San Francisco, California, in 1930-31 he was back again in Mexico commencing a fresco in the National Palace. In the latter part of 1931 New York saw him at the Rivera exhibition at the Museum of Modern Art. Then came the Detroit Institute of Art commission followed in 1933 by the Rockefeller Center experience.

This period of his sojourn here is marked by the series of frescoes, illustrated in the following pages, that he donated to the New Workers School in New York. This work was begun in the middle of July and completed early in December of the same year. At present Diego Rivera is working on a new commission in Mexico City at the Faculty of Medicine.

PANEL 18 (See diagram, page 11)



PANEL 20 (See diagram, page 11)



# DIEGO RIVERA

## ON ARCHITECTURE AND MURAL PAINTING

Remember that Morse, the inventor of the telegraph, and Fulton, the creator of the steamship, were excellent American painters who canalized their plastic genius in the stream of mechanical construction, a social expression necessary to the industrial revolution. Do not forget that while modern European architects of our time are finding their esthetic and functional inspiration in American industrial buildings which are the work of engineers and, like their marvelous machines, an expression of the plastic genius of this New World, many of the architects of the American continent continue their efforts to draw "inspiration" more or less directly from the false and poverty-stricken tradition of "theatre decoration" in the outworn styles of the Old World. I remember perfectly well that in one of the most prominent architectural workshops of the Paris Ecole des Beaux Arts there was for years preserved with the greatest respect the sentence written on one of the walls by a former Prix de Rome student:

L'ARCHITECTURE C'EST L'ART DE COPIER BÊTEMENT  
CE QUE LES ANCIENS ONT FAIT DE PLUS BEAU.

This is the key to the problem; a great number of the architects of this country were students at the Ecole des Beaux Arts, and many of them Prix de Rome men.

If mural painting is not essentially constructive, as much in plastic organization as in its very constituent materials (which in turn must have a homogeneous relationship with the construction materials of the building on whose walls the painting lives), it cannot be truly functional and consequently must of necessity be bad, ugly, and useless.

An oriental rug is, fundamentally, a material of construction and an element of comfort that is functionally useful in the tent of the nomad Arab, just as are the painted skins and textiles of the North American Indian's wigwam or was the European tapestry in the tent of the aristocratic chief of a military encampment.

But, gentlemen, how can you expect a painted canvas or a painting which simulates tapestry to possess constructive and functional elements in a building made of steel, brick, stone, cement, and glass? In such a building, a painted canvas pasted on the wall, whatever artistic merit you may concede it, can be nothing but a theatre curtain and, even in the best case, only a piece of "very expensive wallpaper" — inevitably something in the worst taste.

I know that you will protest that Titian, Tintoretto, and Veronese all painted canvas murals. That is perfectly true. But it must also be remembered that those marvelous paintings were made in Venice and for Venice, that the Venetian palaces were built in the midst of a lake, mounted on wooden piles, that the Venetian streets were canals, and that the city lived by and for its ships. Those ships were propelled by the force of the wind captured in the hollow of their sails—painted canvas. The canvases of Titian, Tintoretto, and Veronese were a part of complicated structures of elaborately carved wood which conserved the style of the ornate poops of the ships of the Most Serene Republic of Venice which dominated the seas. For that reason, the canvases of Titian, Tintoretto, and Veronese were, speaking functionally, excellent mural painting for Venice. The character of Venetian architecture was naval, maritime, for Venice was a great seaport. So is New York, but the steel structure of this city's buildings is raised on the granite bedrock of the island of Manhattan; the ships of today are of steel and are no longer propelled by painted canvas but by steam and internal combustion engines. We must be in accord with the conditions of the life of our time or else we shall create only ugliness.

The academic architects really prefer murals that can't be seen, representative paintings which leave the wall as empty as it was before it was painted. But in that case, why go to the trouble of painting it? If they want a plain, flat wall, let them leave it clean. They can do nothing better. And if by chance the wall is well proportioned, it will be sufficiently beautiful in itself to require no painting or ornamentation. But, on the other hand, it is important to understand that a true mural painting is necessarily a functional part of the life of the building, a synthetic and expressive summing up of its general and particular human functions, an element of union and amalgama-

tion between the machine which is the building and the human society which uses it and which ultimately is its only cause and reason of being.

You architects are frightened by clear, well-defined form, by beautiful color and vital expression because in your desire to avoid anything that might disturb the peace of your clients you have reached a point where you must base the style of your buildings (which, although commercial, yet try to be romantic) in a single feeling—that of hypocrisy. Well, hypocrisy is an anti-social virtue that is completely incompatible with good mural painting. If you wish to impress the bad taste of your rich clients with theatrical counterfeits in ridiculously false taste, why do you not better make photographic enlargements of the illustrations in the cheap magazines which seem to be your idea of proper mural painting? Wherein lies the necessity of having them redone in oils by expensive, pompous, and false artists?

Fortunately, despite all these handicaps, fresco painting continues to exist. And fresco is a process of painting that is essentially architectural. Its structural materials are lime, sand, marble, cement, and steel, the colors it admits are the result of varying degrees of oxidation of iron and manganese, of aluminum and copper sulphates. It may be constructed directly on a brick or stone wall or autonomously sustained by a steel or wooden structure. That is to say, it is essentially similar and homogeneous to the materials of construction of the building in which it exists; its plastic and esthetic, like those of architecture, are functional. A fresco, like a good façade of a building, should be the direct result of its internal function; the plastic of a fresco must necessarily be constructive, clear, and decisive, and must be executed by a rigorously dialectic method in all that concerns its objective and subjective expression. And if it is not so executed, it cannot exist.

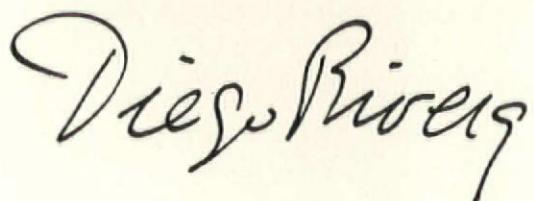
There is nothing that can take the place of fresco in mural painting because fresco is not a painted wall, it is a painting which is a wall. In movable panels, it can be the best subdivider of space in modern buildings. By dividing and redistributing its total surface in geometric, harmonic, and proportional quantities, it can be converted into removable panels without the slightest difficulty, and the divisions of its surface, not concealed but rather emphasized with metal strips, may create a style of mural paint-

ing of a purity and elevation as great as those of mosaic and as completely in accord with modern mobility as the mosaic was with ancient stability.

It is said against fresco that its life is only that of the building on whose walls it is painted (and direct painting on the wall is, of course, the best method), and that in a modern city like New York the life of a building is no more than twenty-five to fifty years. But is not architecture itself made to serve the exigencies of that same condition, and since when has architecture ceased to be the greatest of the plastic arts?

You architects, if you are willing to design buildings that will last only a few years, why do you refuse to allow those painters who love painting sufficiently to prefer it to "immortality" to contribute to the life of your buildings with the insuperable beauty of true mural painting? If you want true and beautiful mural painting, offer the walls that you construct to painters who will accept the modest wages of the workingman for their work and a short life for their creations in exchange for the opportunity to express themselves. Thus you will be sure of the purity of the production of the muralists, and when there is purity in the motives, beauty cannot be lacking in the result.

Every building, every office, every workshop, factory, or shop offer excellent places for beautiful mural paintings, and the more humble and commonplace the site, the higher may be the function of the painting that lives in it. There must certainly be plenty of painters on the American continent who have sufficient enthusiasm and love for good mural painting. Why do they not unite to work like real workmen, at a daily wage like masons and plasterers, and offer their good work, cheap, alive, and beautiful, to those architects (for there must be many here) of good taste and good will? Thus "art" will cease to be something for the few and the chosen, for the critics and sophisticates, and those ridiculous words will finally be erased from our language. Then true architecture and its handmaiden, true painting, will be for all men, for the working masses of city and country, and then, too, true art will grow in grandeur in direct proportion to the number of millions of men capable of being nourished by its beauty.

A handwritten signature in cursive script, appearing to read "Diego Rivera".

Photograph showing the original drawing made on the rough coat which is then traced on paper. The drawing is later transferred to the finish coat before each day's painting is commenced, by means of the tracing. This photograph was taken at night immediately after the upper right section had been completed and before the white fringe of unpainted overcarbonated plaster had been cut away. The next day a fresh area of plaster is laid up either in a new section of the panel or abutting the former day's work. Each section can be painted on only for about 8-16 hours, after that carbon-



Esther Born

ation has advanced too far to permit of true fresco. Only the most perfect craftsmanship is "good enough" in applying the plaster coats.

By drawing and studying directly on the rough coat elaborate studio-made paper cartoons are eliminated in whole or part according to the methods of the artist. But more important, such rough coat studies give a much truer relationship to the architecture of the painting that will follow, than a paper cartoon seen in the studio or transplanted like a hot-house flower and hung in place.

E. B.

## THE TECHNIQUE OF FRESCO

by

A. SANCHES FLORES

*Technical Assistant to Diego Rivera*

The importance and role of fresco painting is as great as that of architecture itself. Architecture models and adapts its forms to the particular function to which the building is destined. The role of the fresco is likewise functional and is in direct relation with the architecture and especially with the activities to which the building is dedicated. Architecture furnishes the foundation for the fresco, and for the fresco is the task of telling to people what architecture cannot tell by itself: the past, present or future purposes of the building.

Diego Rivera executed his frescoes in the buildings of Mexico directly on the walls as these buildings were of an extremely solid and durable construction. Thus the frescoes form an intimate part of the building itself.

The case of the New Workers School presented a completely different problem. Since the school does not own the building which it occupies at present, it may at any time be forced to make a change. Therefore, as a solution to this problem we were led to the construction of removable panels. These removable panels cannot, of course, be compared in weight to easel paintings, which can be carried everywhere and, if one wishes, piled up in any place. But, considering that they are fresco paintings, they are extremely light. Two men can easily carry them. In regard to their flexibility, there need be no fear of cracks as a result of the vibrations and shocks to which they are necessarily subject in transportation. A panel five feet by five resists a pressure of 100 to 150 pounds at its center, giving a deflection of 1 in. to 1½ in. without the appear-

ance of any cracks after the pressure is released. The weight of the panel itself is approximately 150 to 200 pounds.

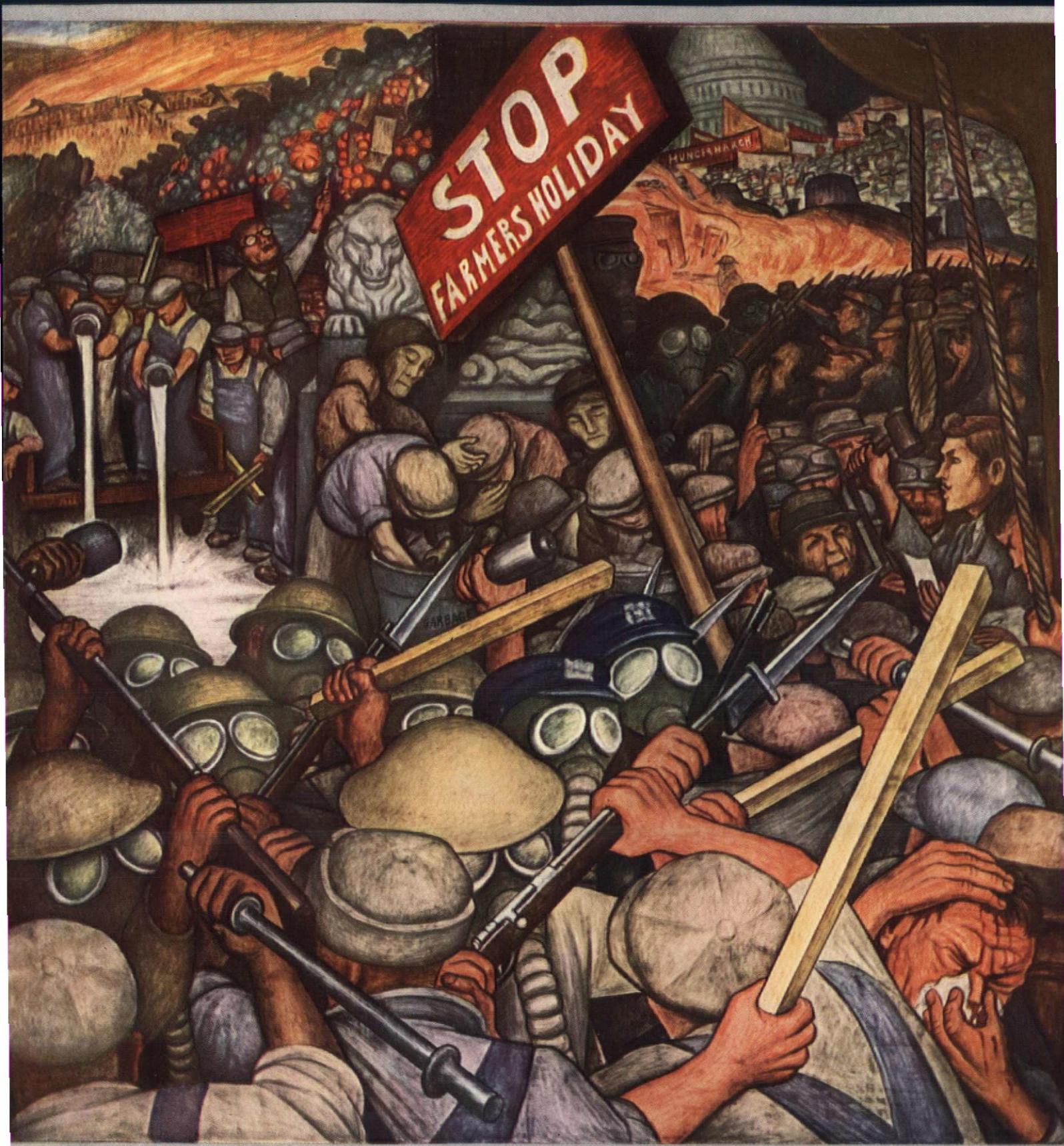
These panels are constructed in the following manner: On a skeleton of wood a composition board is placed and held firmly by galvanized screws and washers. On this board is spread a coat consisting of a mixture of cement, goat's hair, marble dust and lime. Before this coat dries a wire mesh is placed over the entire surface of the panel. This wire mesh sinks half way into the fresh cement plaster. Galvanized staples are nailed in every six inches over the entire surface of the wire mesh. The panel is then left to dry. This requires a week more or less in the summertime. Once the panel is dry it is ready to receive the second coat, or brown coat, which consists of marble dust and lime, and is applied directly on the cement which has first been thoroughly wet. The panel is then left again to dry, a week more or less according to the atmospheric conditions. When the second coat is dry, the panel is ready to receive the final coat, or that is to say, the one on which the painting is done. This last coat consists of a mixture of one part of fine marble dust to an equal amount of lime. Each day a section of fine plaster is put on the panel. This section represents the day's work, that is, the part which the artist intends to finish that day. The plaster remains wet from six to twelve hours according to the atmospheric conditions. Once it is dry it is impossible to paint on it. Any part that is not finished the day that it is put may be scraped off and repainted the following day.

*(Continued on page 10)*



PANEL 13

IMPERIALISM SUGAR WALL STREET BANANAS OIL



PANEL 14

ARMERS' REVOLTS STARVATION PLENTY TEAR GAS

The materials used in the construction of the panels should be of the highest grade of purity. Impurities like sodium chloride, ammonium, sulphur or nitrogen compounds have harmful effects on the fresco. The degree of fineness in the marble dust plays an important role in the finish of the plasters, for upon it greatly depends the resistance and flexibility of the finished product. Lime that has been slaked and kept moist for more than four months is the most suitable for the purpose of fresco. One can get this lime in the form of a paste which is shipped in rubber sacks that help to keep it fresh and prevent it from coming into contact with the carbon dioxide of the air. A chemical test of a sample of the lime that is to be bought should be required before ordering it.

Different limes have different properties, and so, if one is not careful in getting his lime, cracks are very likely to develop in the entire surface of the fresco. All the colors used for fresco painting are limeproof. Before they are placed in the palette, they are tested in order to be sure of their permanency. A color is regarded safe in respect to lime if a sample of it after remaining in a solution of 30 per cent sodium hydroxide and water for more than 24 hours does not change in hue. Another sample of the same color is placed in concentrated sulphuric acid for 24 hours. A test against the effect of light, hydrogen sul-

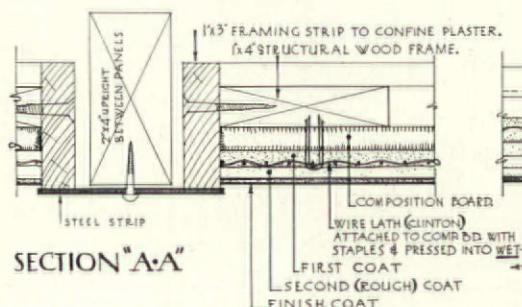
phide, ammonium hydroxide and humidity is conducted in a metal box, using a globe of 500 watts. The color is placed in one side of the box where the light strikes it and completely covers it. In the bottom of the box there is cotton soaked in a solution of ammonium hydroxide, which is evaporated by the heat of the globe. If a color thus exposed for a minimum of 48 hours shows no alteration, then it is considered safe.

The colors used in painting fresco are ground only with distilled water to the consistency of a thick paste. When painting with them they are diluted only with distilled water, the slightest trace of grease or gum having a disastrous effect on the fresco. The color does not penetrate into the plaster, but remains on the surface, being firmly held by means of a fine film of calcium carbonate which is mechanically formed due to the fact that each time the brush is passed over the lime it moistens it and this moisture in turn liberates a small quantity of calcium hydroxide which covers completely the color. In time this calcium hydroxide is converted into calcium carbonate by the absorption of carbon dioxide present in the air. If a fragment of fresco is observed under the microscope, the particles of pigment are seen to remain on the surface of the plaster, giving the impression of a mosaic, which is what a fresco really is, *a microscopic mosaic*.

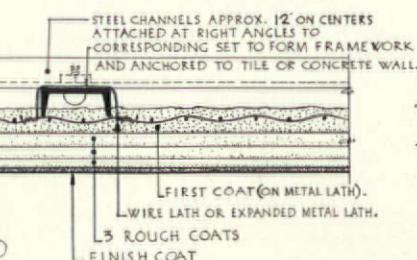
**PIGMENTS USED BY DIEGO RIVERA:** Yellow ochre—golden (middle) ochre—dark ochre—raw sienna—Pozzuoli red—red ochre—Venetian red—almagre morado—burnt sienna—transparent oxide of chromium—cobalt blue—vine black—Diego Rivera avoids use of ultramarine.

## VARIOUS PLASTER AND PANEL DETAILS

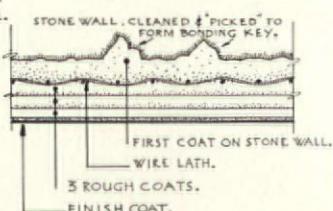
### NEW WORKERS SCHOOL NEW YORK



### ROCKEFELLER CENTER, N. Y. DETROIT INSTITUTE OF ART



### FACULTY OF MEDICINE MEXICO CITY



SCALE OF DRAWINGS, ONE QUARTER FULL SIZE

#### First or "scratch" Coat (cement Coat).

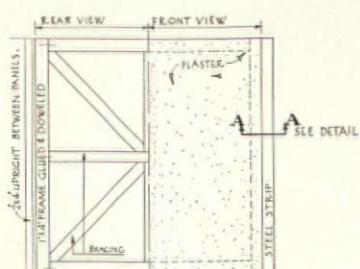
White Atlas Cement	33%
Marble dust No. 16 or 18	33%
Lime	33%
Goat hair	1%

#### Rough or "brown" coat.

Marble dust, No. 16 or 18	2 parts
Lime	1 part

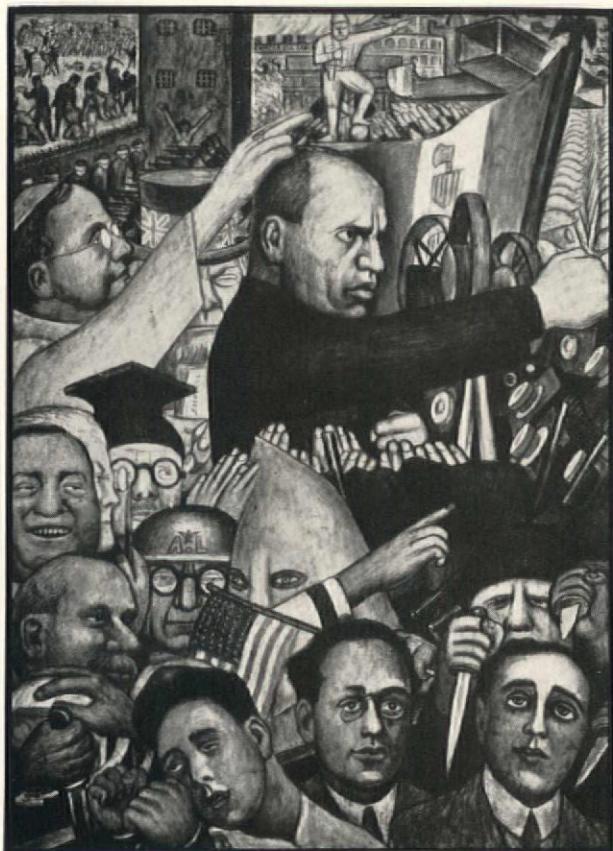
#### Finish Coat.

Marble dust, Fine	1 part
Lime	1 part

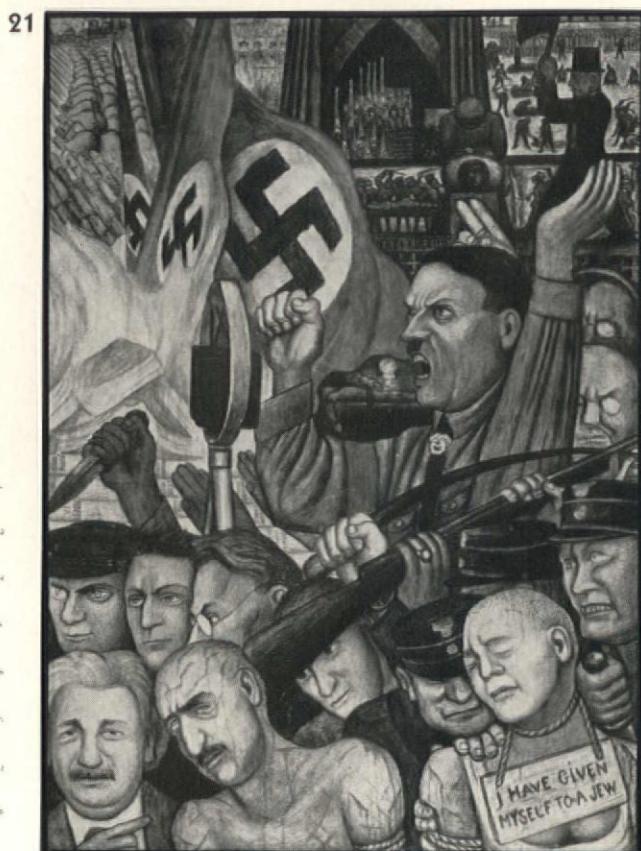


TYPICAL PANEL USED AT  
NEW WORKERS SCHOOL

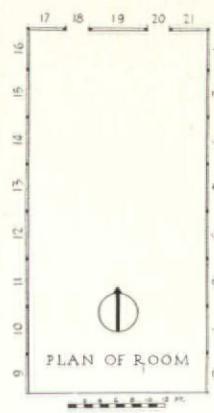
*Clean sand* is sometimes used instead of marble dust. Proportions are by volume. In Mexico cocoanut fiber is used in place of goat's hair. Lime hydrate is sometimes used in place of lime putty.



17



21



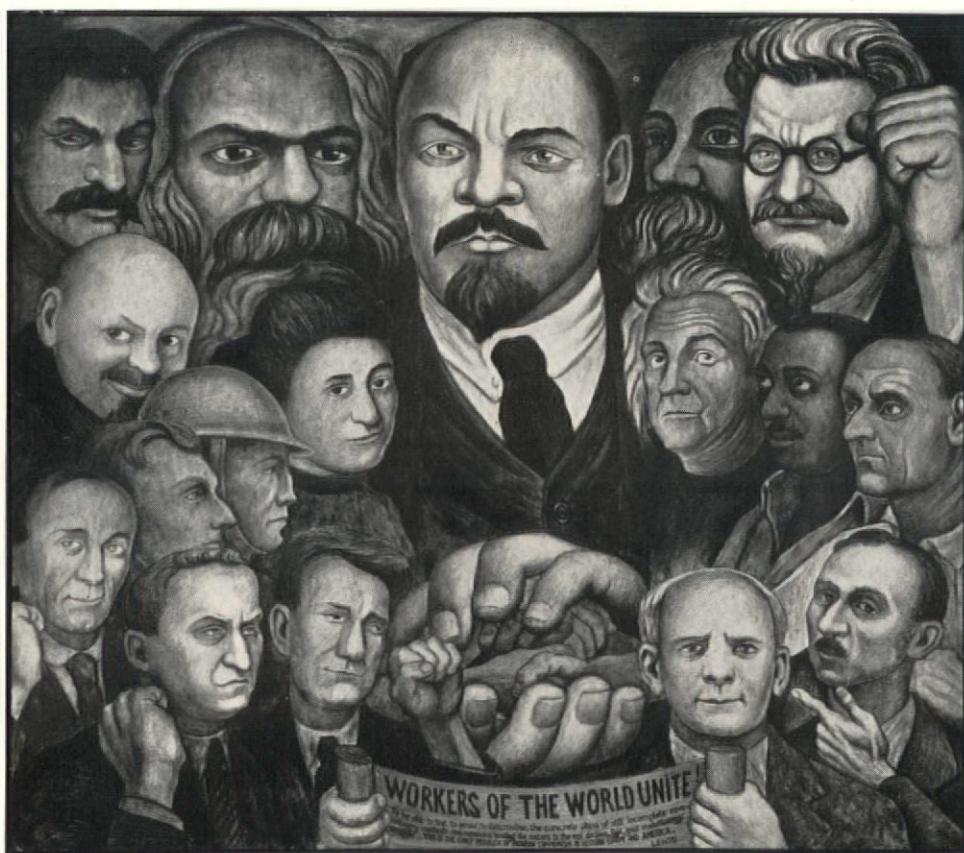
WEST WALL



NORTH WALL

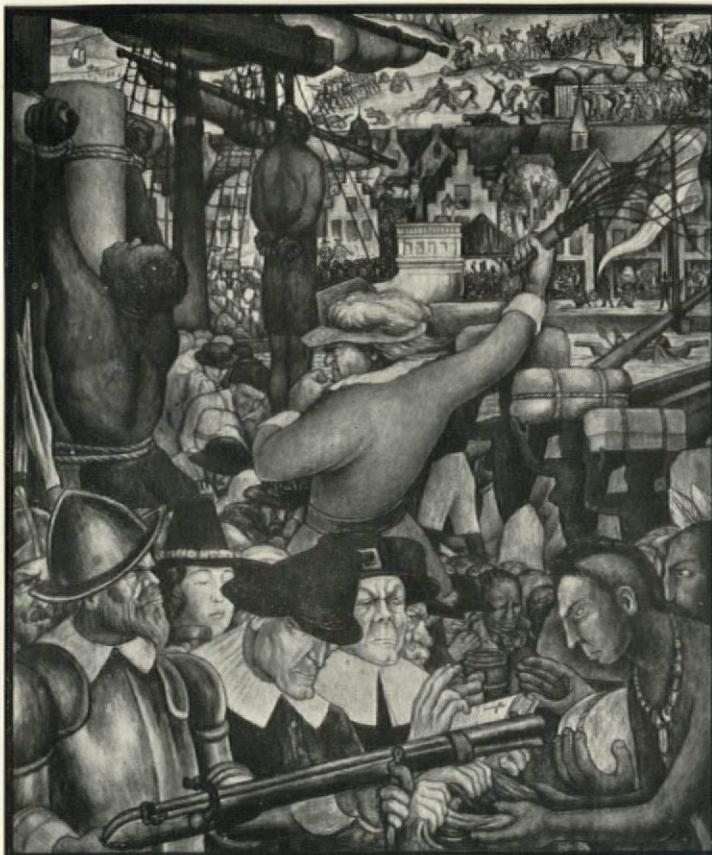


EAST WALL

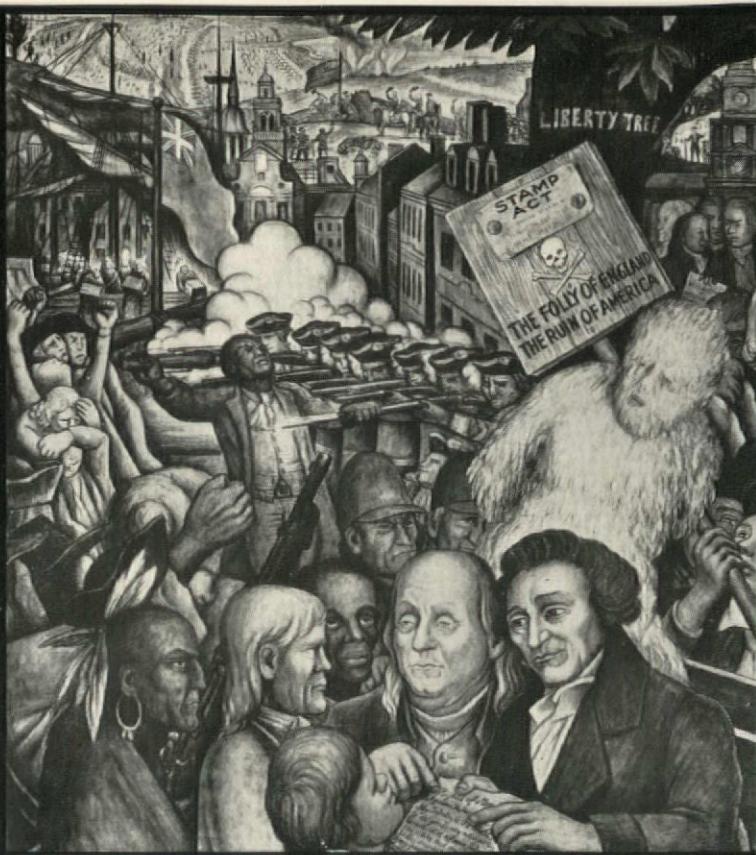


19

JULEY PHOTOS pages 11-16 inclusive



1

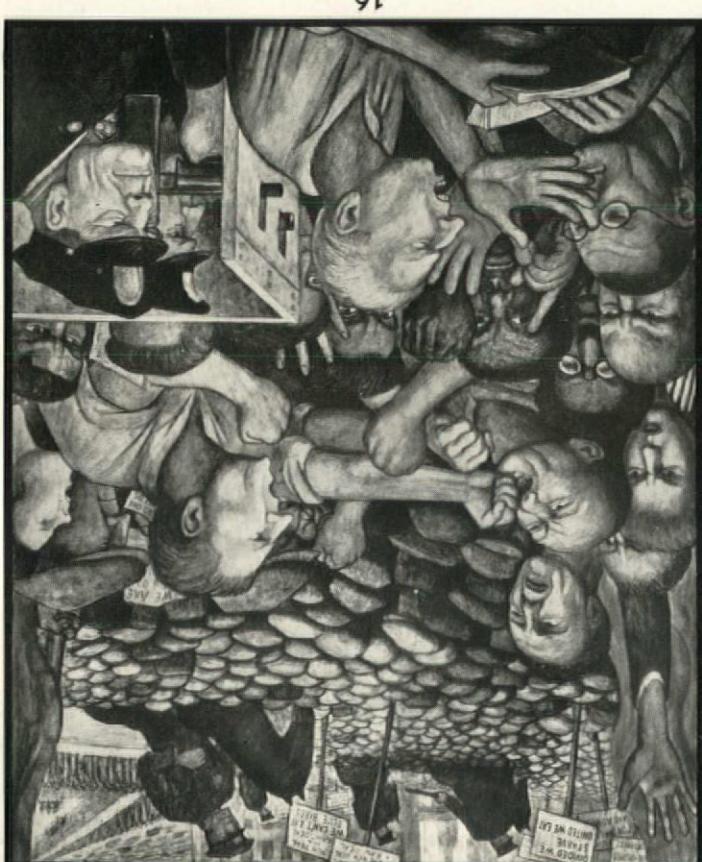


2

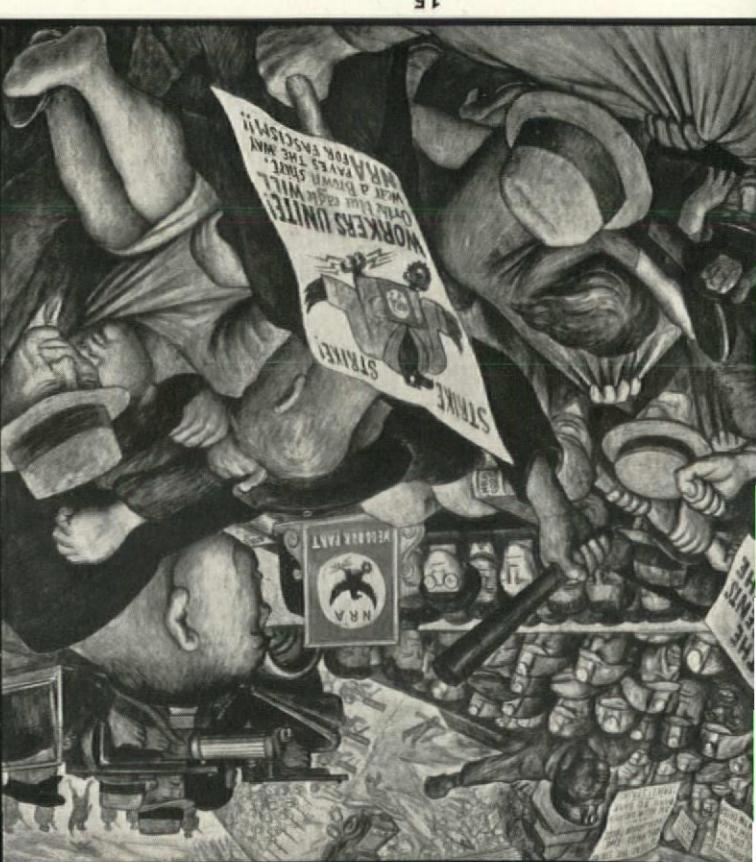
## COLONIAL EXPANSION • REVOLUTIONARY PRELUDE

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## RIKERS—THE NEW DEAL • PRESENT UNEMPLOYMENT

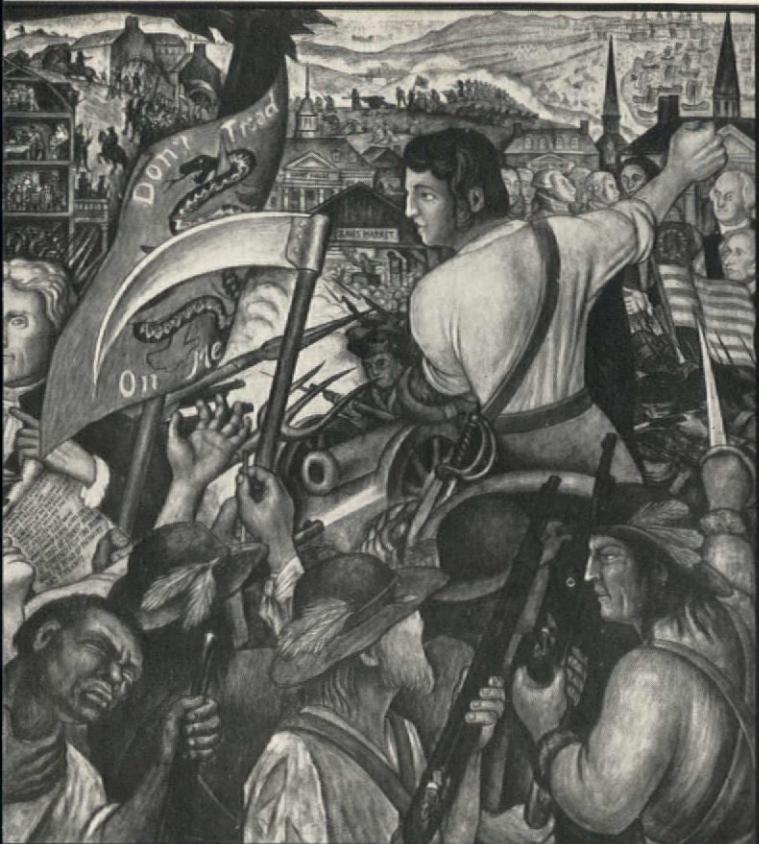


16



15

osite panels of the west wall. Accordingly, the arrangement of the panels on these and the two following pages is identical with the arrangement of the frescoes.



3

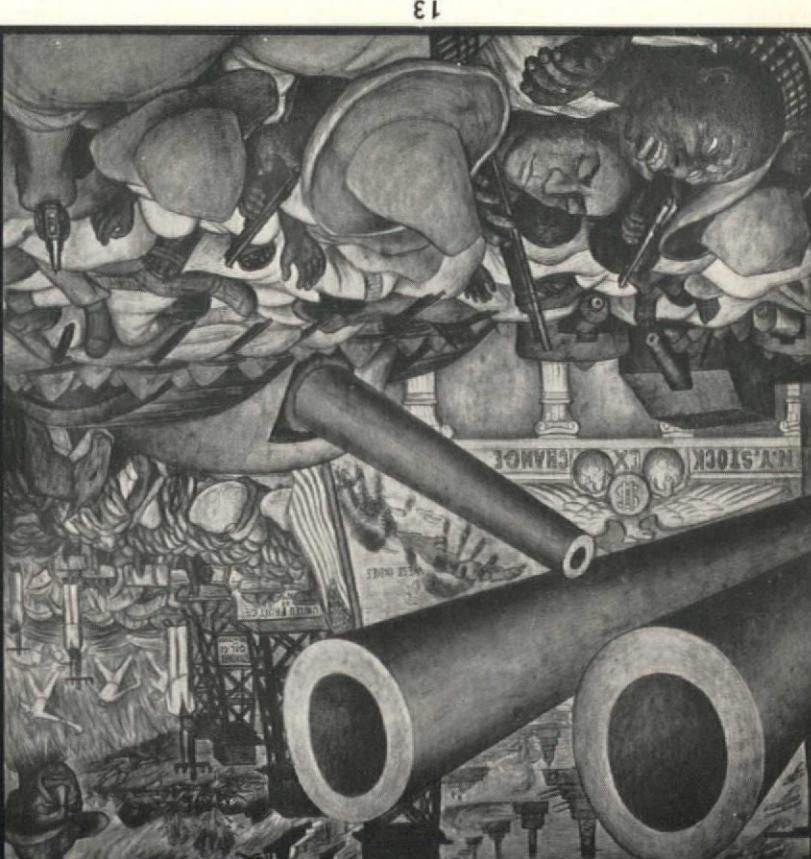


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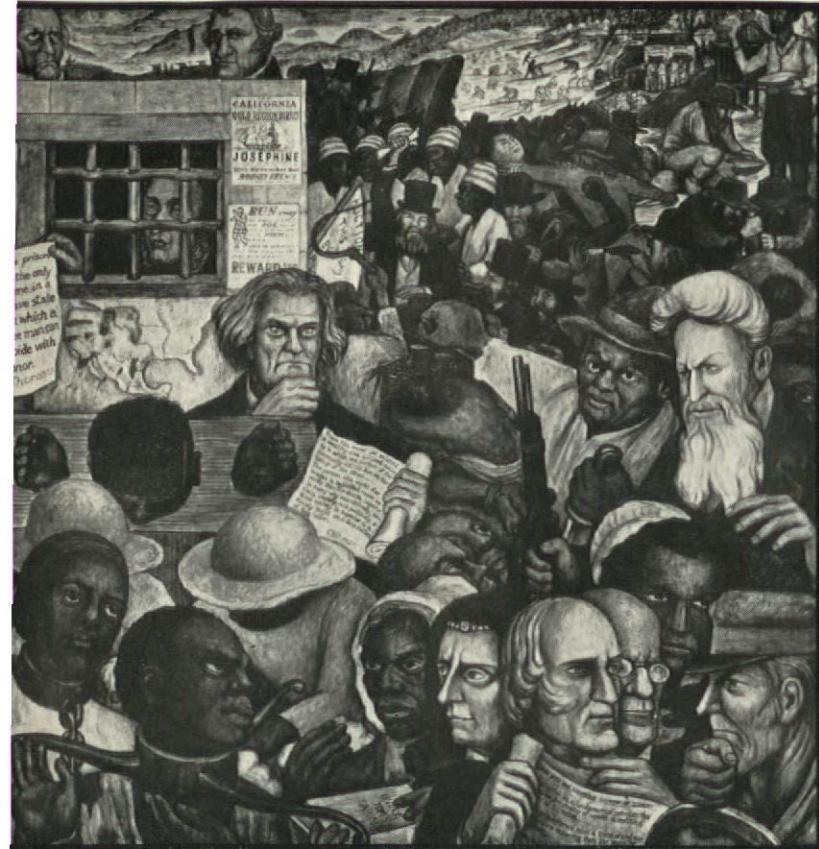
## IMPERIALISM • FARMERS, REVOLTS • HUNGER MARCHES THE REVOLUTIONARY WAR • WESTWARD EXPANSION



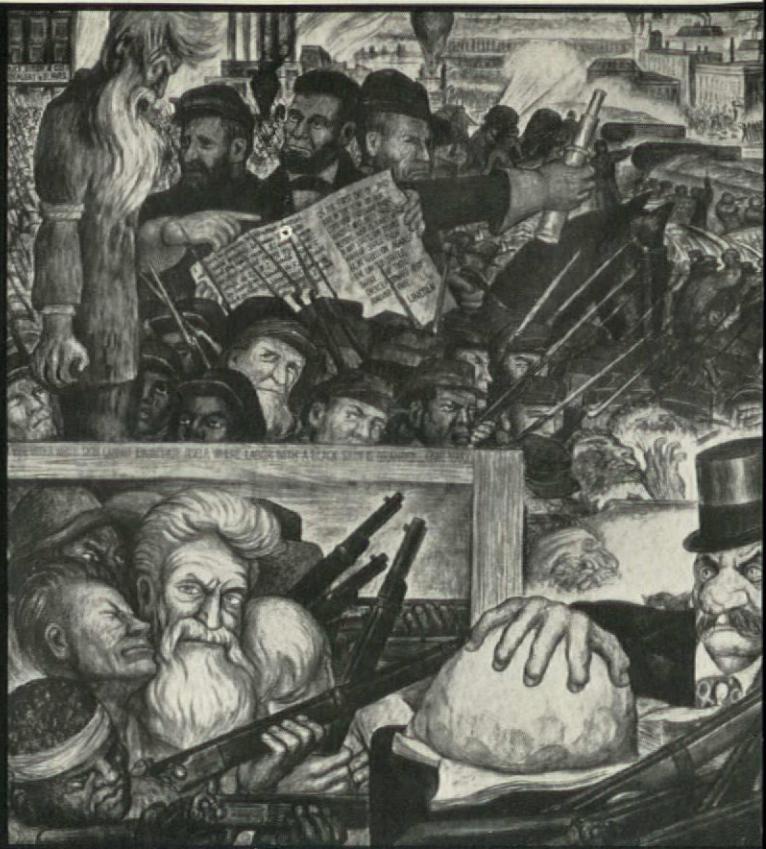
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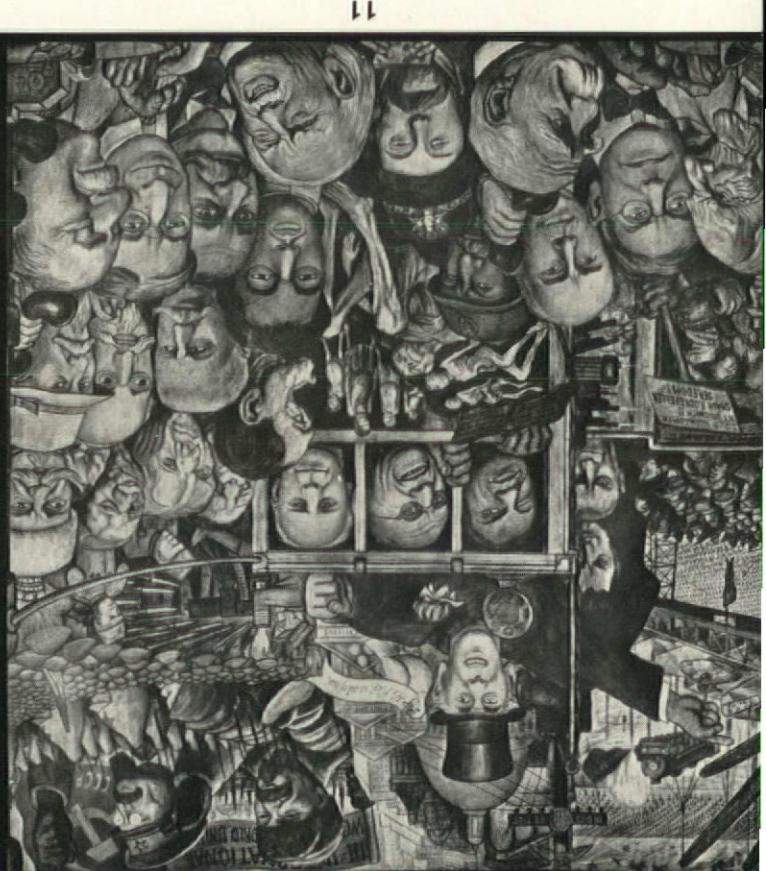


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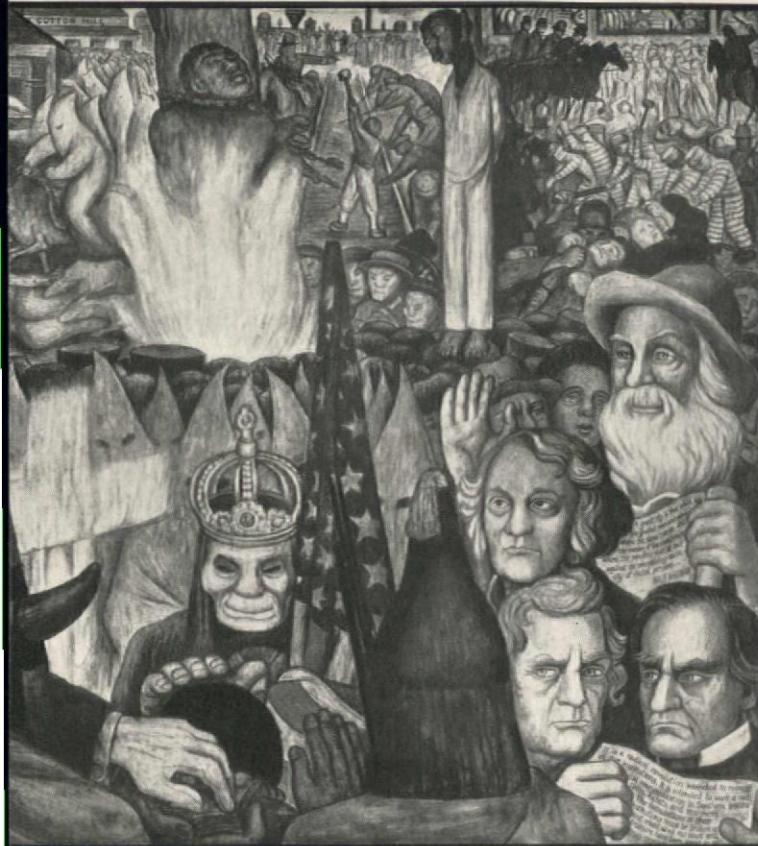
## SLAVERY — THE MEXICAN WAR \* THE CIVIL WAR ORLD WAR \* NEW SLAVERY — „TRIAL BY PREJUDICE“



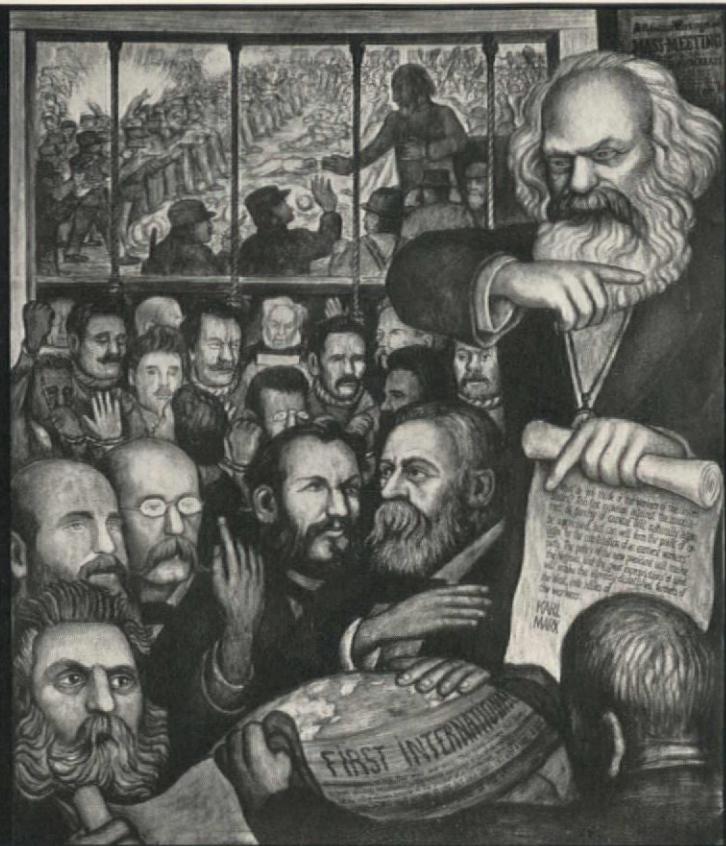
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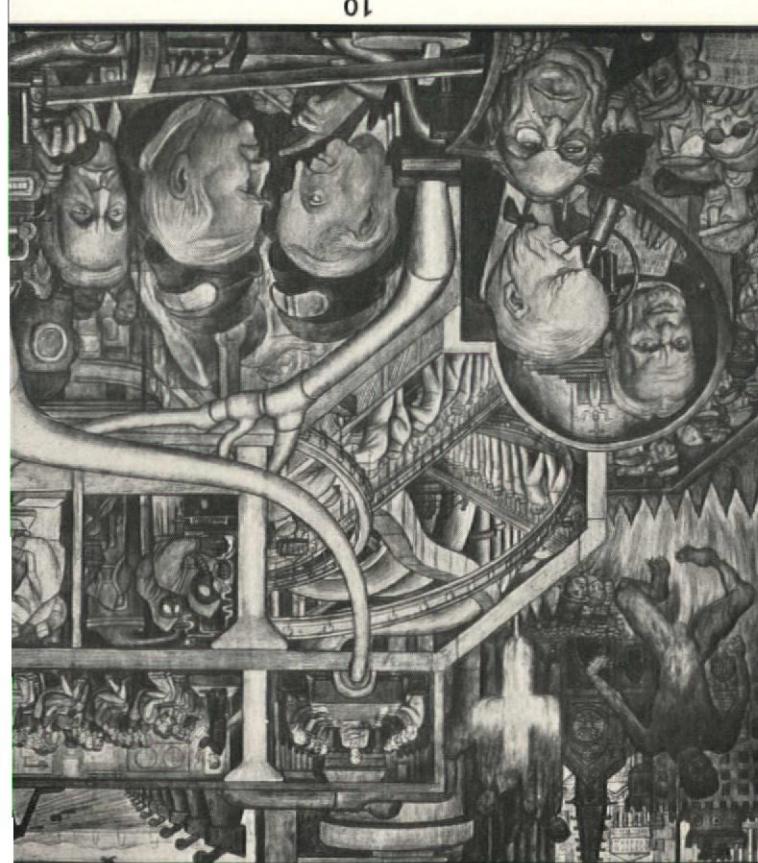


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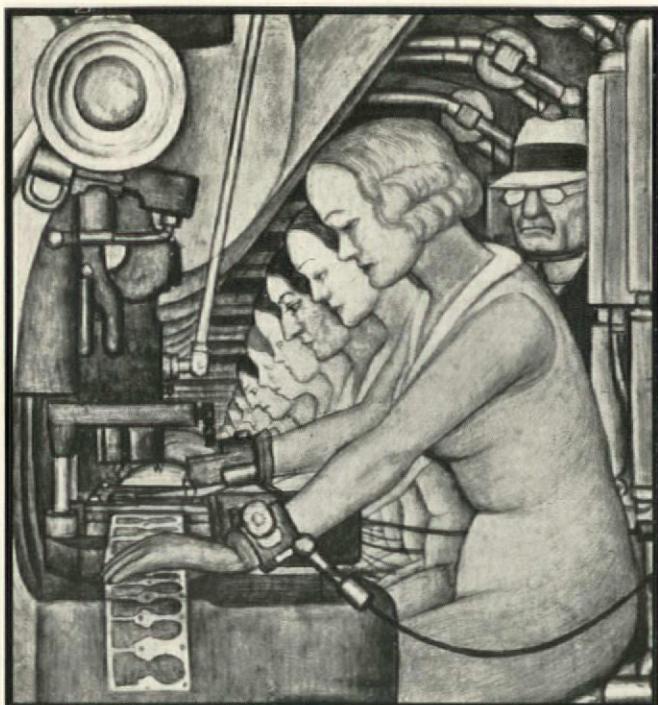
## STORATION PERIOD • THE FIRST INTERNATIONAL LABOR FIGHTS DURING THE 90'S • BIG BUSINES



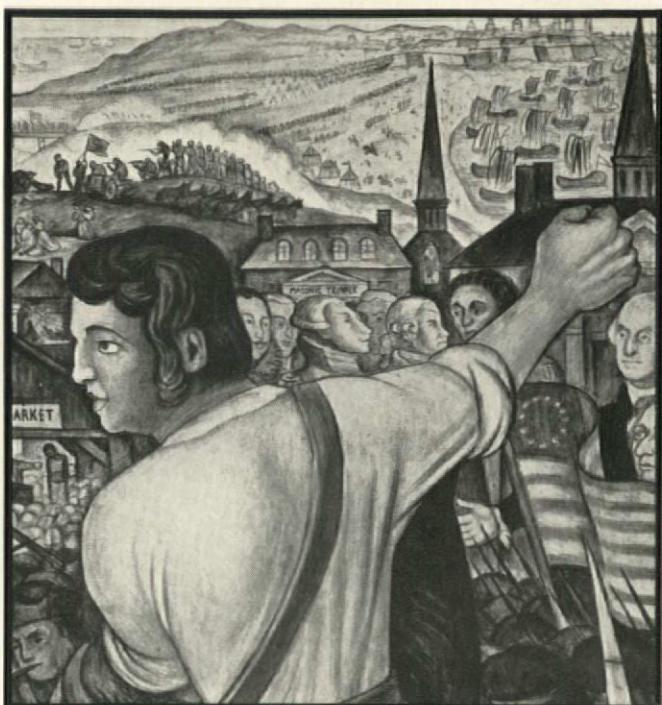
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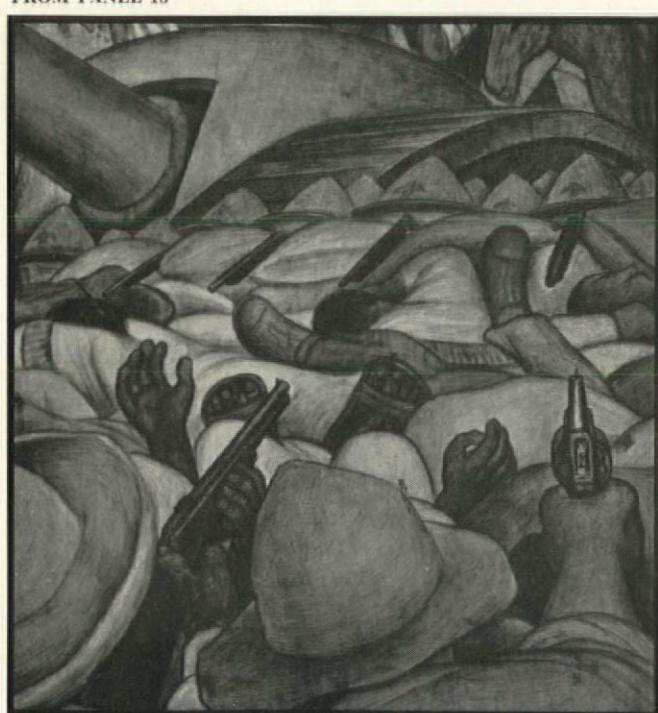
FROM PANEL 12



FROM PANEL 3

## DETAILS FROM FOUR OF THE PANELS

FROM PANEL 13



FROM PANEL 1

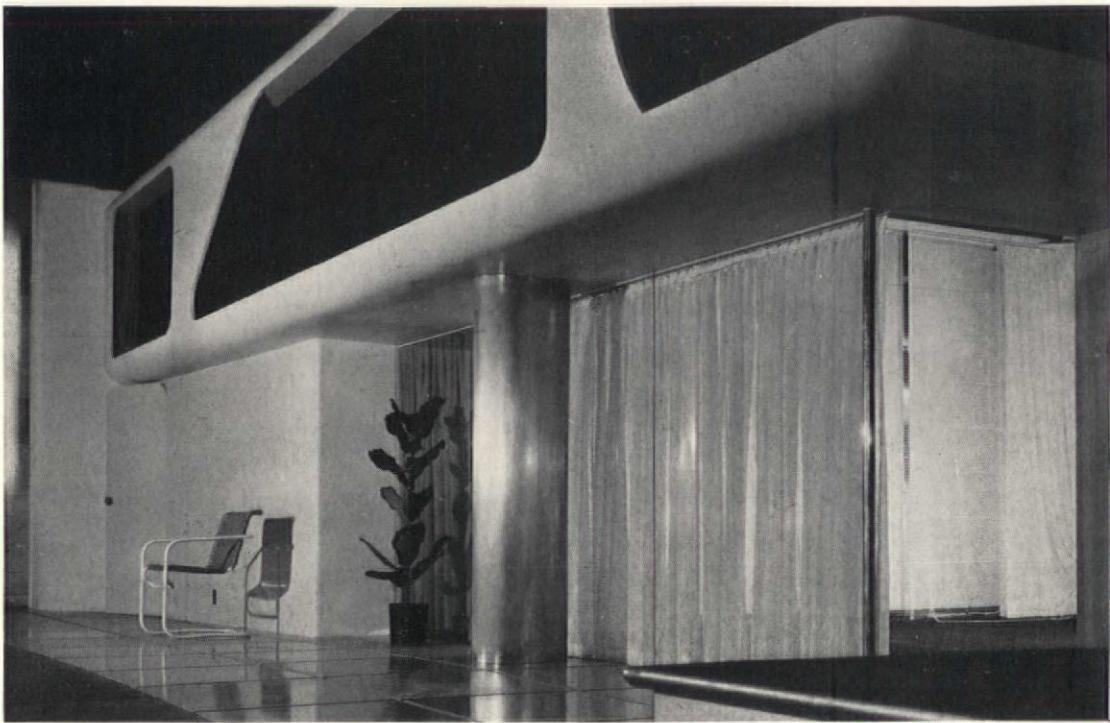


All engravings in the Rivera Section including color plates by Sterling Engraving Co., New York

Printed by The Rumford Press, Concord, N. H.

## SPACE HOUSE

Built of plywood, glass and metal, with curtains of fabric, net and rubber, this full-size model house introduces novel ideas in plan, construction and detail, exemplifying a modern philosophy of design



## SPACE AND THE YEARS

To serve as a setting for the selling of furniture two architects designed houses recently built indoors. One is called "Space House" by architect Frederick Kiesler, and is thoroughly ultra-modern; the other is "The House of Years," designed by architects Henry Otis Chapman, Jr., and Harold W. Beder, and is the last word in an adapted traditional vogue. Both are eminently suited to their purposes, both are proving profitable to their possessors, both are excellent examples of their respective kinds. The "House of Years" is built in the show rooms of W. & J. Sloane & Company, "Space House" is featured by Modernage. Parallel photographs are shown on the following pages.



## THE HOUSE OF YEARS

Because the Regency style "is a traditional type of architecture that lends itself to modern adjustments — destined to enjoy wide popularity" it was chosen for this display house



*Rotan Photos*

*The library, Space House — quiet, restful, straightforward, functional*

THAT form follows fashion is as true and as trite as the tenet that form follows function — and function may well prove to be the fashion. The only constant is change, and the desire to conform to mutations of taste, to be as different (and in the same way) as one's neighbors, to be as smart and as in-style as the pace-setters, is at once the joy and the anxiety of the merchandiser. The joy, because the changes bring about style-obsolescence long before desuetude. An object is outmoded before it is outworn. The anxiety, for fear the style change may be too violent, too advanced, and find the public not yet daring enough to embrace it at the risk of being *too* different or eccentric. Premature styles are unprofitable. But there is usually room for more than one fashion; conservative and advanced tastes can both be catered to, as these two contrasting houses demonstrate. Each has its partisans and patrons to whom the other is anathema. Likes and dislikes are strong and add zest to the controversy always being waged between the accepted and the advanced.

"Space House" has gone the present limit in simplicity, directness; "The House of Years" in elaborate refinement, style, elegance.

The House of Years appeals frankly to a clientele



*The dining rooms; above, Space House, spacious, white light, utterly simple, windows of alternating overlapping glass strips. Opposite, The House of Years, formal, rich, Regency, black, white and gold, with touches of green*

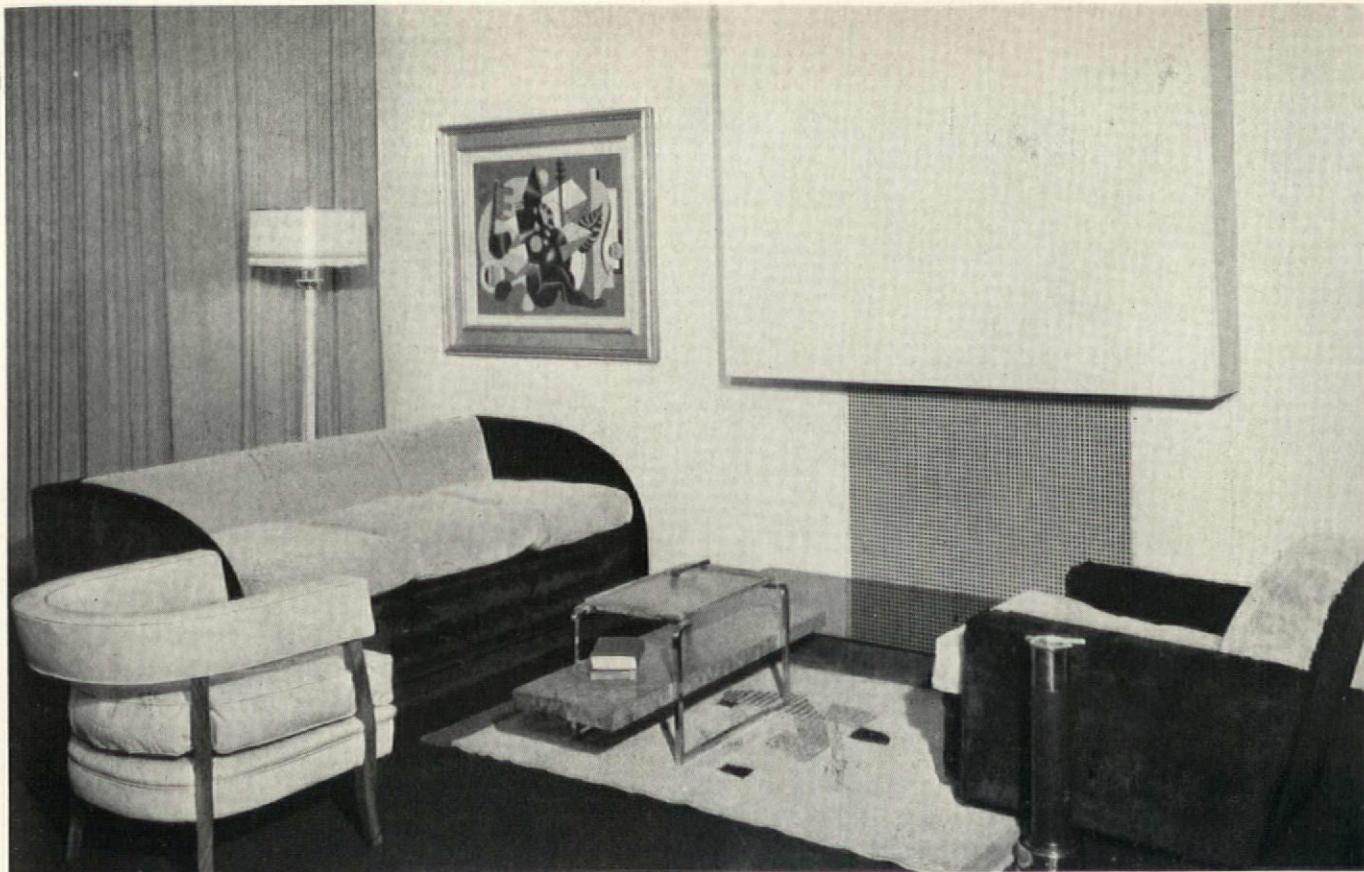


*The library, the House of Years —  
decorative, architectural, restrained*



of traditional good taste, those who have respect and appreciation for the creations, architectural and decorative, of the Eighteenth Century, those who feel at home in the gracious formality of the adapted Classic. Modern interpretations of various related styles follow one another throughout the rooms. Conventional in plan and structure, the emphasis is placed on style and largely on the furniture decoration and accessories. Color and drapes, contrast and texture, richness and finesse are employed to the ultimate.

Sagacious MODERNAGE has added interest to its display in making the setting, the house, a demonstration of the theories and space-time-structure concepts of designer Kiesler. "*Epatez les bourgeois*" is useful in intriguing the possible purchaser, for one is impressed by what one does not fully understand. The ingenious architect has produced one of the most outstanding examples of modern design and plan yet seen in this country. He gives the lie to those who would term the new forms "ugly," for he is incapable of being either brutal or gauche. The result is distinguished designing, full of feeling for form, texture and material. It goes Mies Van der Rohe one better in plan theory for it adds differences



*Rotan Photos*

*Fireplace and hood of living room, Space House — simple, unadorned painted walls, modern*

in levels as a divisional element to the flexibility of separation obtained by curtains on overhead tracks.

The desire to be different in design and structure has developed many ingenious details, and a few ingenuous. The desire to be thoroughly rational at times entails some rationalizing. Mechanically rolled-up "doors" (like the old roll-top desk) may be an expensive anachronism. The changes in floor level limit the flexibility of space use while adding to the interest of arrangements, but avowedly this house is a compromise solution due to the exigencies of the furniture display requirements.

In structure for an actual house (of which this is but a model indication) die cast parts, prefabricated, are contemplated. The structural theory is based on a concept of continuity of stress "continuous tension," as exemplified in an egg. To most engineers the only example of "continuous tension" is the balloon (hardly adaptable to house construction for where mass is to be supported and voids spanned a balance between compression and tension is usually sought and acknowledged). The streamlined post at the entrance to the house appears to be an ade-

*Curved stair, Space House, enclosed solid elemental in form, risers frame into central post, brown and white*





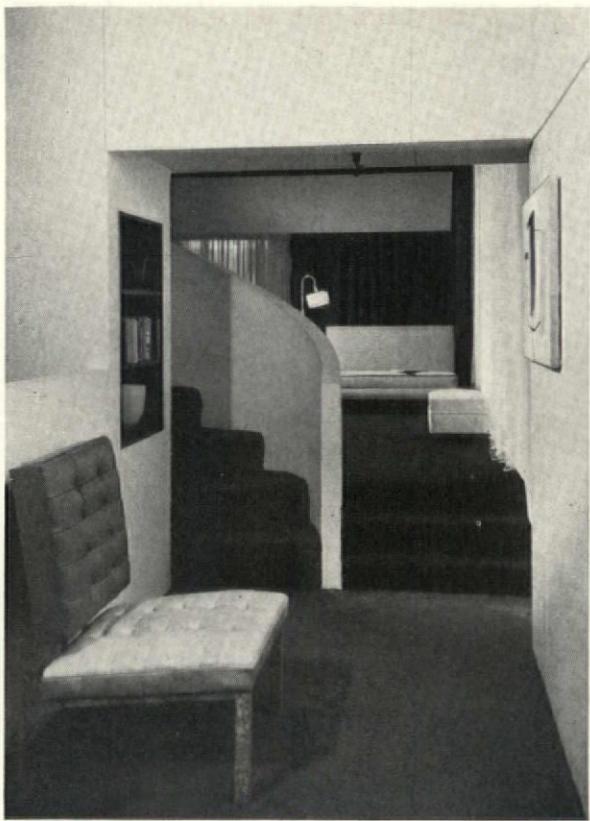
*Living room, the House of Years  
— enriched, silver and flowering-tree walls, elaborate, Chippendale*



quate compression member, as do the vertical walls, and the streamlining of this post is evidently an esthetic rather than a functional consideration. Continuous tension may be hard to accomplish where glass and wall are involved. Such vagaries, however, are really unimportant because of the consummate skill in pure design so admirably displayed.

But structural solutions are secondary to space-use considerations and the aim, so well accomplished, is to produce a plan involving a minimum of space which is adaptable to the activity-functions of the household, small spaces for the individual, flexibility in arrangement and division for group activity. The sense of freedom and spaciousness achieved is remarkable. Gone is the tight four-wall boxiness of customary construction. Only bedrooms and kitchen retain cubicle characteristics, and these seem inherent in their functional requirements. Space House will open up new vistas of the possibilities of planning and designing for a new, more rational, more unconfining, uninhibited full living, a precursor of the new era of cultured leisure.

*Curved stair, the House of Years — graceful, classic wrought iron with brass rail, contrasting black and white*

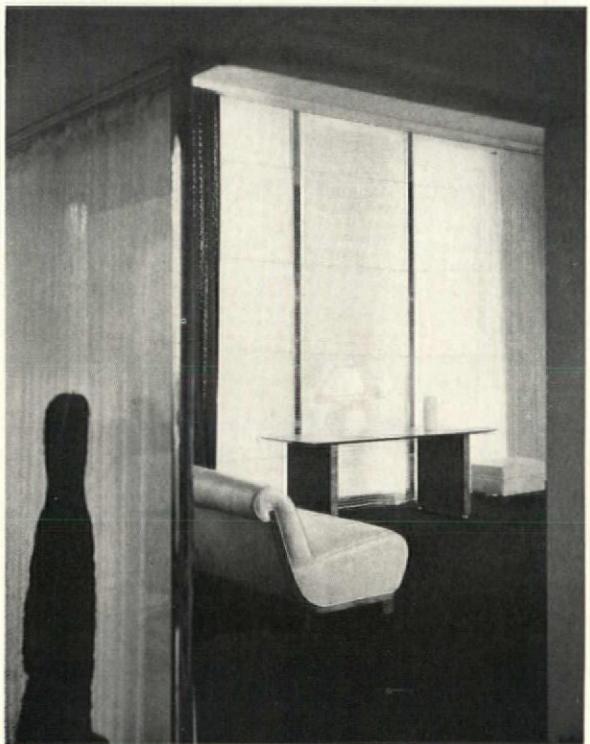


*Rotan*

*A "framed" opening and a window treatment in Space House, both depending on proportion, material and arrangement for their effect*



*A door enframement and a window treatment in the House of Years, in which Regency detail, decoration and accessories play the important parts*



*Rotan*



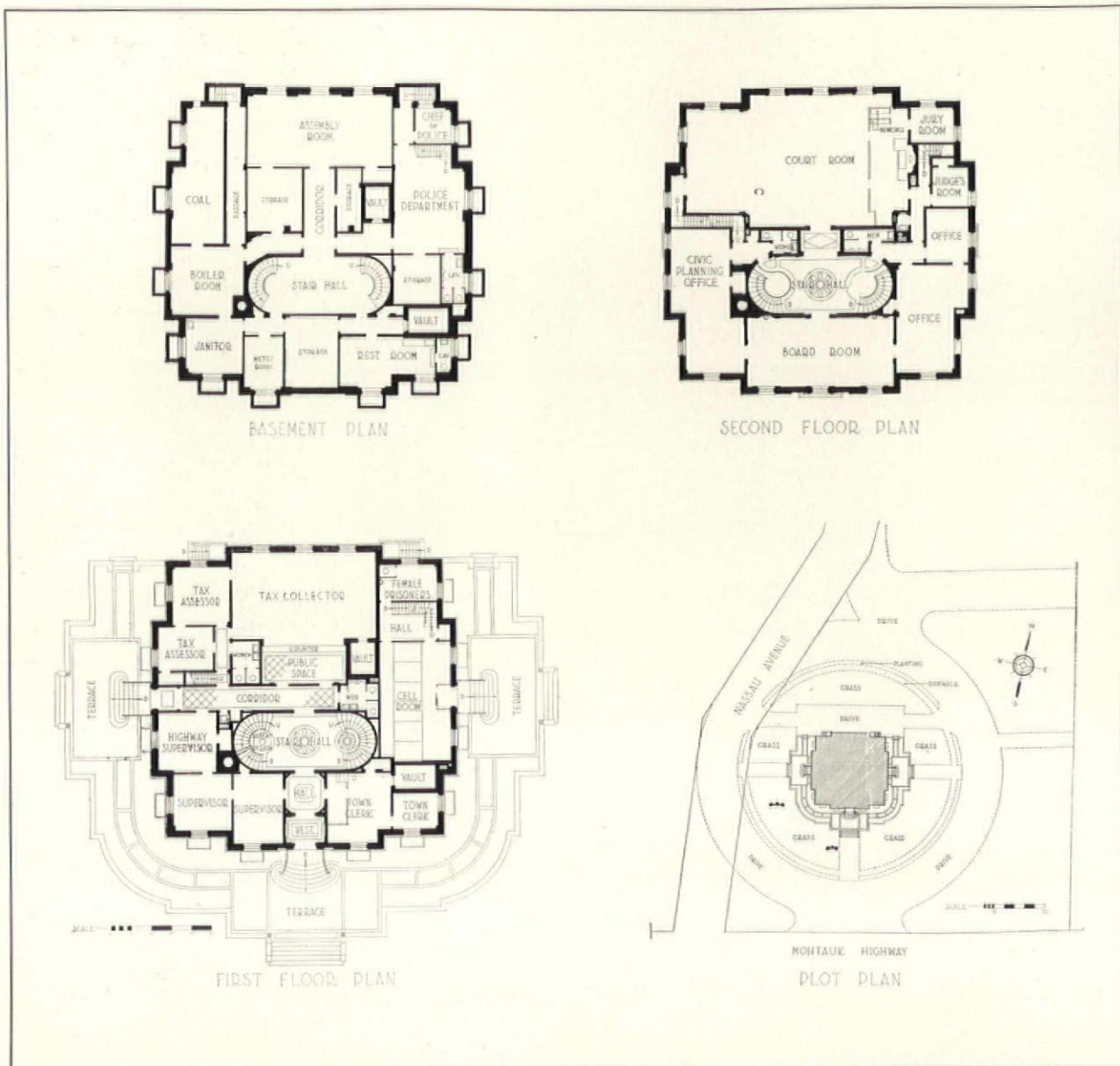


*All photos, F. S. Lincoln*

Dignified, yet not austere, this modern Neo-Greek town hall is appropriate to its use and its setting. Brick walls, marble trim, slate roof, white painted cupola, and lead covered dome are used for the exterior

## TOWN HALL, ISLIP, LONG ISLAND, N. Y.

EUGENE S. HELBIG, ARCHITECT  
FULLER & DICK, SUPERVISING ARCHITECTS



TOWN HALL, ISLIP, L. I., N. Y.

Eugene S. Helbig, Fuller & Dick, Architects

ALL the governmental activities of suburban Islip, except the fire department, are concentrated in the town hall—police department, court, jail, town board, clerk, highway commissioner, tax assessor and civic planner. The town set aside \$235,000 for its hall, but the architects went \$18,000 under their budget, which included landscaping, streets, furniture and all fees as well as the 260,000 cu. ft. of building. Planned around a central stair hall, which has a circular staircase on each end, the spaces are intelligently

grouped according to functions, horizontally and vertically. Easily approached from the entrances are the town clerk and tax collector, officials with whom the citizenry deals most frequently. The police, jail, and courtroom areas are grouped on one side of the building, and the town board is appropriately quartered in a room with southern exposure. The heating system is a coal-fired vapor vacuum type, with direct radiation. Mechanical ventilation is supplied to all rooms requiring it.



The photographer records the familiar pattern of the circular staircase, focusing on the black and white marble floor below. Risers and treads are also of marble, and the railing has red painted castiron balusters and a bronze hand rail

TOWN HALL, ISLIP, L. I., N. Y.

Eugene S. Helbig, Fuller & Dick, Architects



Around the semicircular walnut table sits the town board against a background of light brown walls and chestnut painted pine paneling. The flooring is also walnut, in herringbone pattern, and the lighting fixture is of glass, with a chromium and bronze frame



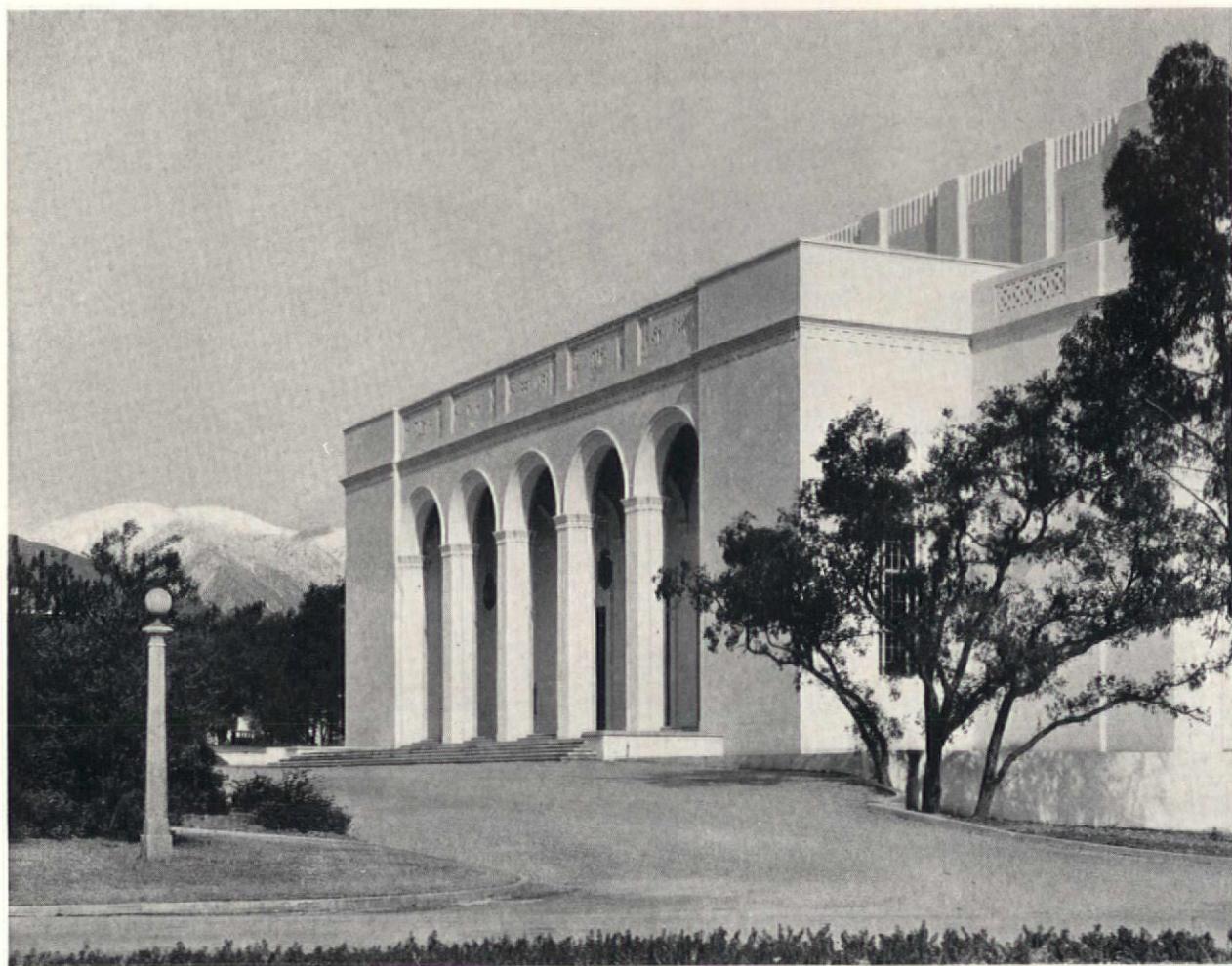
The walls of the courtroom are painted oyster white, with trim of a slightly lighter color. The ceiling is of sound absorbing acoustic plaster, and dark green linoleum covers the floor. Furniture for officials is walnut; the wood railing is painted white



TOWN HALL, ISLIP, LONG ISLAND, N. Y.

EUGENE S. HELBIG, ARCHITECT

FULLER & DICK, SUPERVISING ARCHITECTS



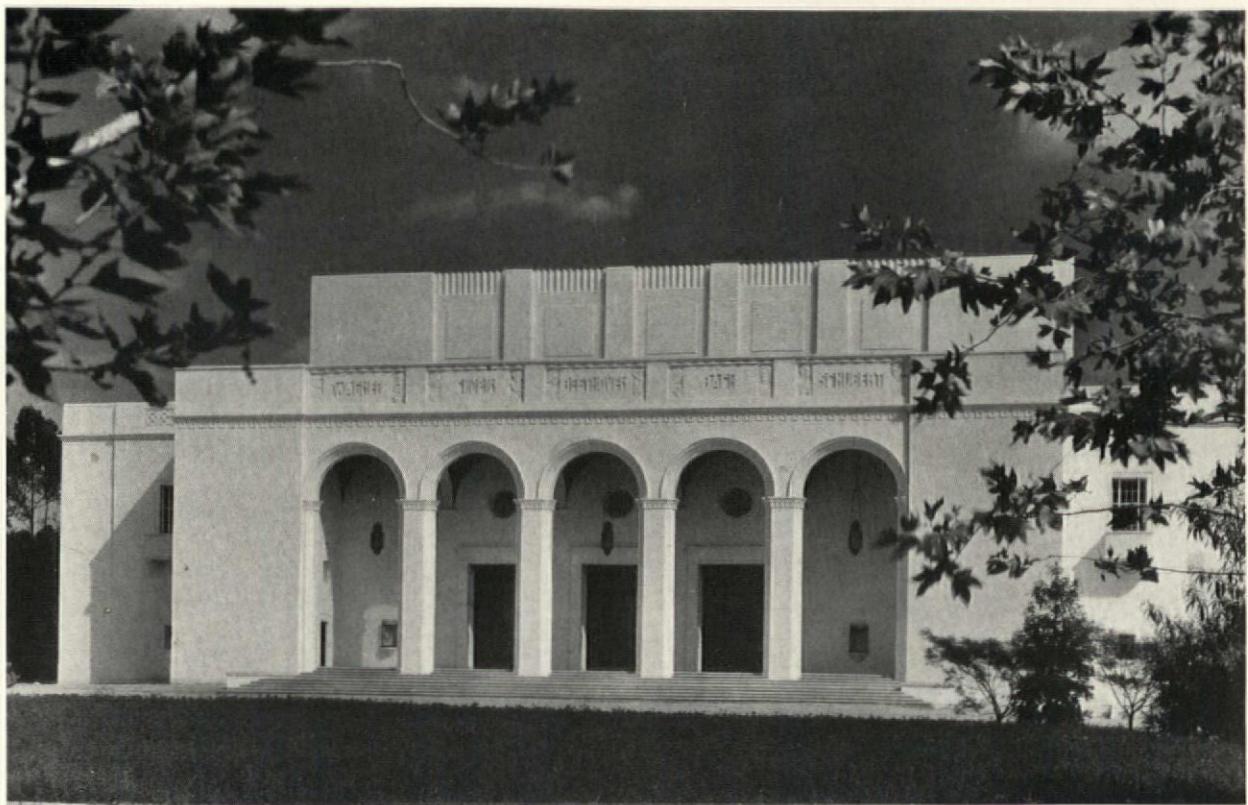
Woodcock

Foregoing the natural tendency to reflect the usual historical Spanish influence, William Templeton Johnson designed this auditorium in a free adaptation of the Northern Italian Renaissance, with an exterior quite modern in feeling. The Bridges Music Auditorium is built of steel and reinforced concrete, completely fireproof, embodying the latest principles of earthquake resisting construction. Its greatest dimensions are 186 ft. 6 in. by 237 ft. 6 in. In plan, all incidental spaces are completely subordinated to obtain an auditorium proportioned in accordance with good acoustical practice. Arched porticos on three sides insure ample facilities for circulation, with the principal entrance through three large doorways on the west facade. Total cost of the building, including organ, furnishings, fees and equipment, was \$650,000.

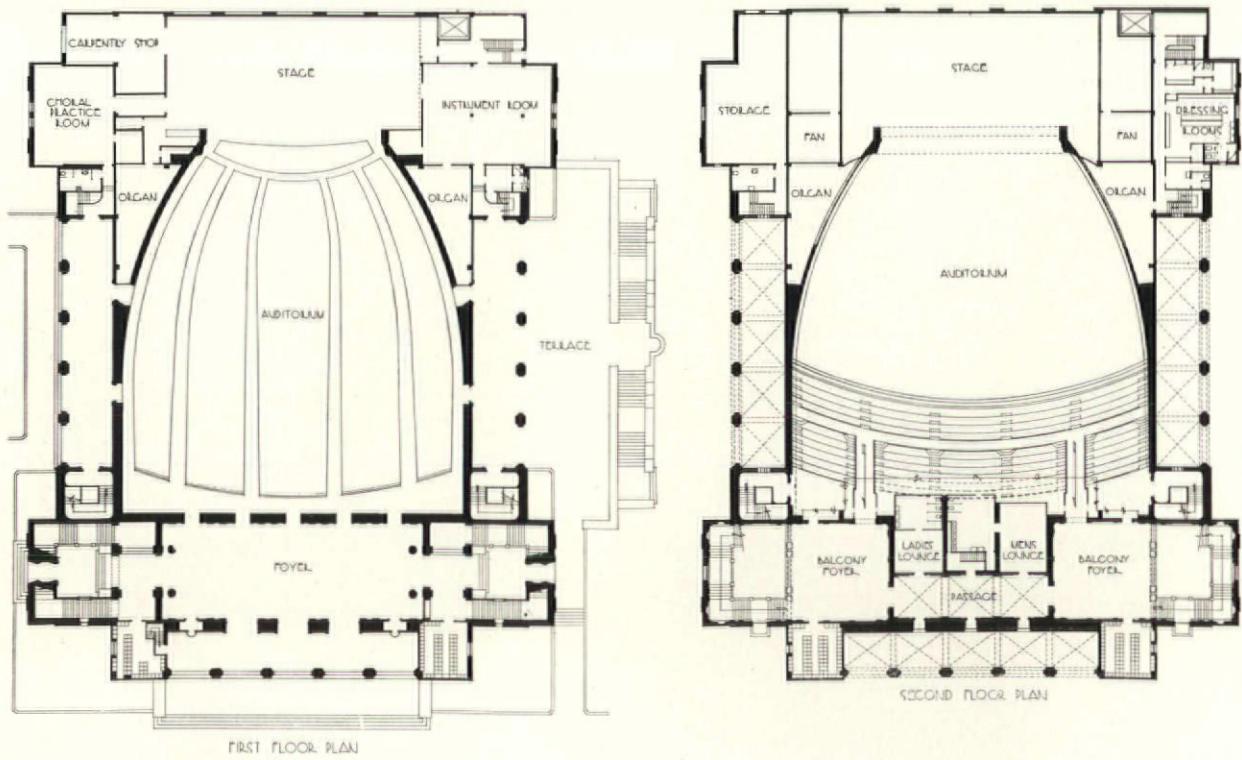
## MABEL SHAW BRIDGES MUSIC AUDITORIUM

CLAREMONT COLLEGES, CLAREMONT, CALIF.

WILLIAM TEMPLETON JOHNSON, ARCHITECT



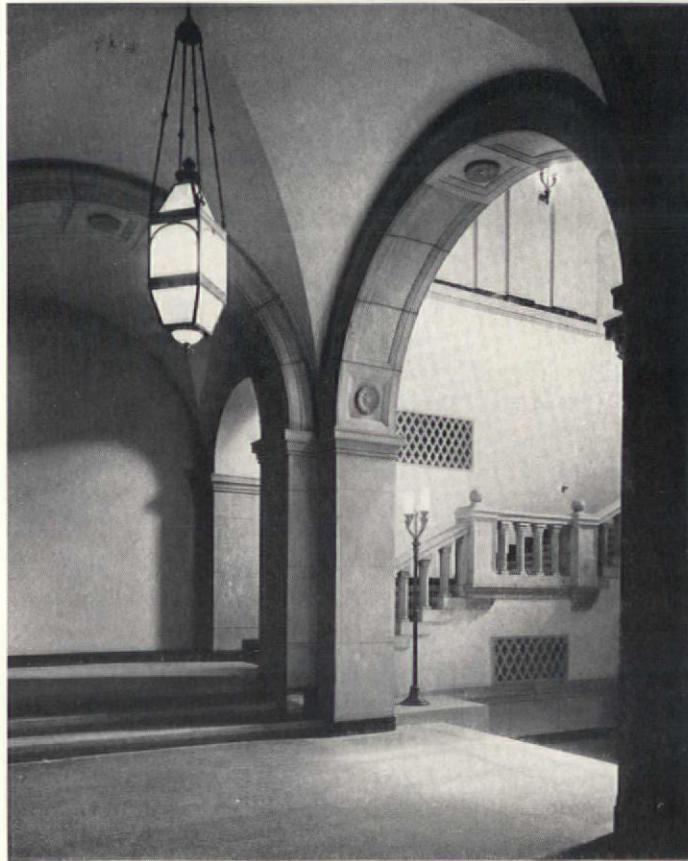
Perfect balance and judicious scaling mark the design of the facades.  
Lettering and other decorative elements are kept in low relief





The main foyer of the auditorium, spacious yet not wasteful, is 34 by 90 ft. Its floor is terrazzo, neutral in color and unpatterned. The principal decorative interest lies in the cast stone pilasters, marble columns and richly coffered ceiling. Bronze busts of musicians in the roundels over the entrances to the auditorium are characteristic of the Italian Renaissance inspiration of the design though the cornice over the pilasters is omitted

BRIDGES MUSIC AUDITORIUM  
CLAREMONT COLLEGES  
CLAREMONT, CALIF.  
WILLIAM TEMPLETON JOHNSON  
ARCHITECT





*Roberts*



*Woodcock*

The auditorium, seating 2,000, is noteworthy for the arched ceiling which swings in a parabolic curve from the proscenium arch to the rear wall. Its design was the result of an effort to provide ideal conditions for both vocal and instrumental music. The proscenium opening is 62 by 36 ft., with a stage sufficiently large to seat a hundred piece orchestra. All the lighting is indirect, thrown upon the ceiling from totally concealed banks of floodlights. A down draft ventilating system provides air changes every ten minutes



## THE HOME OF CONTROLLED CLIMATE

RICHARD W. MECASKEY, ARCHITECT

THROUGH the mind of almost every architect doing a house runs the possibility of air conditioning. Once considered experimental, and still considered expensive, more architects than ever before are trying to squeeze air conditioning systems into cost budgets.

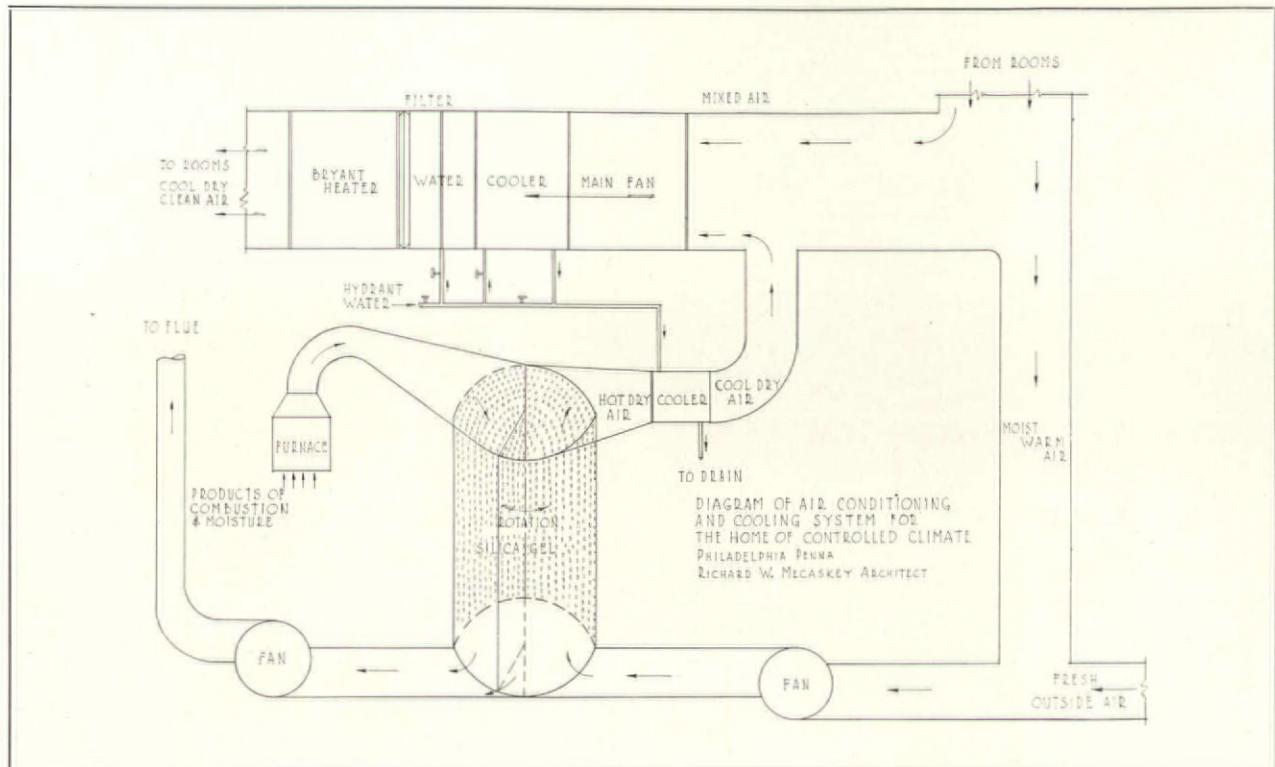
In Philadelphia Architect Richard W. Mecaskey was not primarily concerned with a budget but with designing an air conditioned house that would convince other Philadelphians of the desirability of air conditioning. Backed by a local utilities company, his house, "The Home of Controlled Climate," has been open to public perusal. For architects as well as for laymen it has elements of interest.

At the outset it was decided that while the house was to represent *le dernier cri* in modern living, it was not to be startling or freakish architecturally. On the contrary, based on the old Pennsylvania

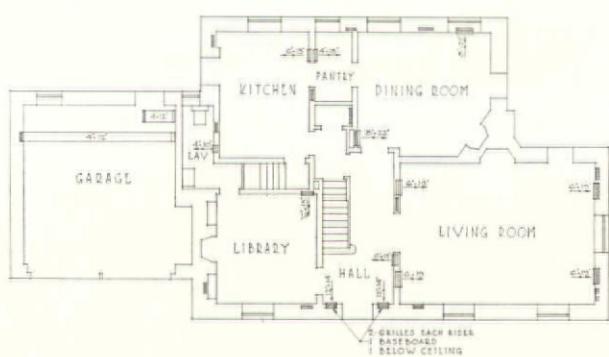
farmhouse, carefully and consistently detailed, it was geared to the needs and tastes of the average Philadelphia family. Its sponsors believed that although modern design may some day be generally accepted, that day had not yet come.

Because the public's inevitable first questions on air conditioning are: "But isn't it expensive?" and "But isn't it expensive to operate?" the architect's efforts were directed at building a house so constructed that plant capacity and operating costs could be kept to a minimum. As every one knows, thorough insulation and its twin, double glazing, hold the key to both.

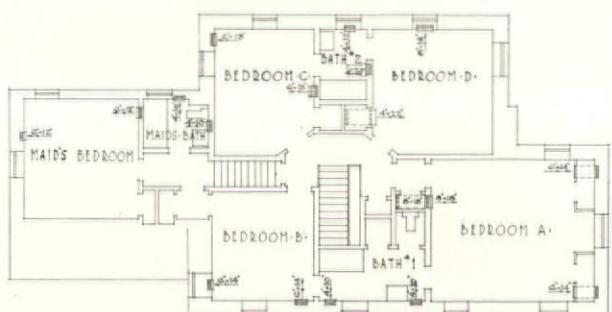
The insulation consists of  $1\frac{1}{2}$  in. of cork, with a 1-inch air space between it and an 18-inch stone wall. The cork completely covers all exterior walls and covers the second floor ceiling. In addition rock



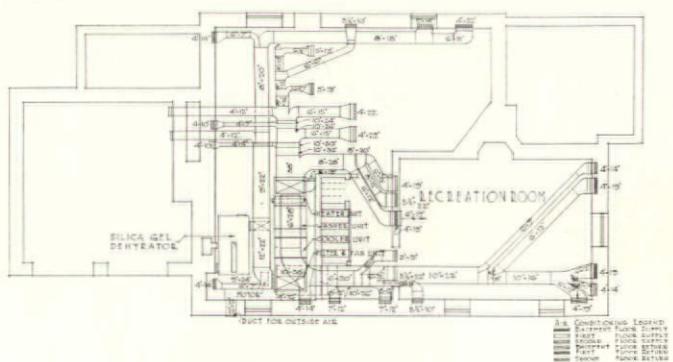
*Particular interest pertains to this diagram of the system in the basement because it is typical of all systems which employ silica gel as the dehumidifying element*



FIRST FLOOR PLAN

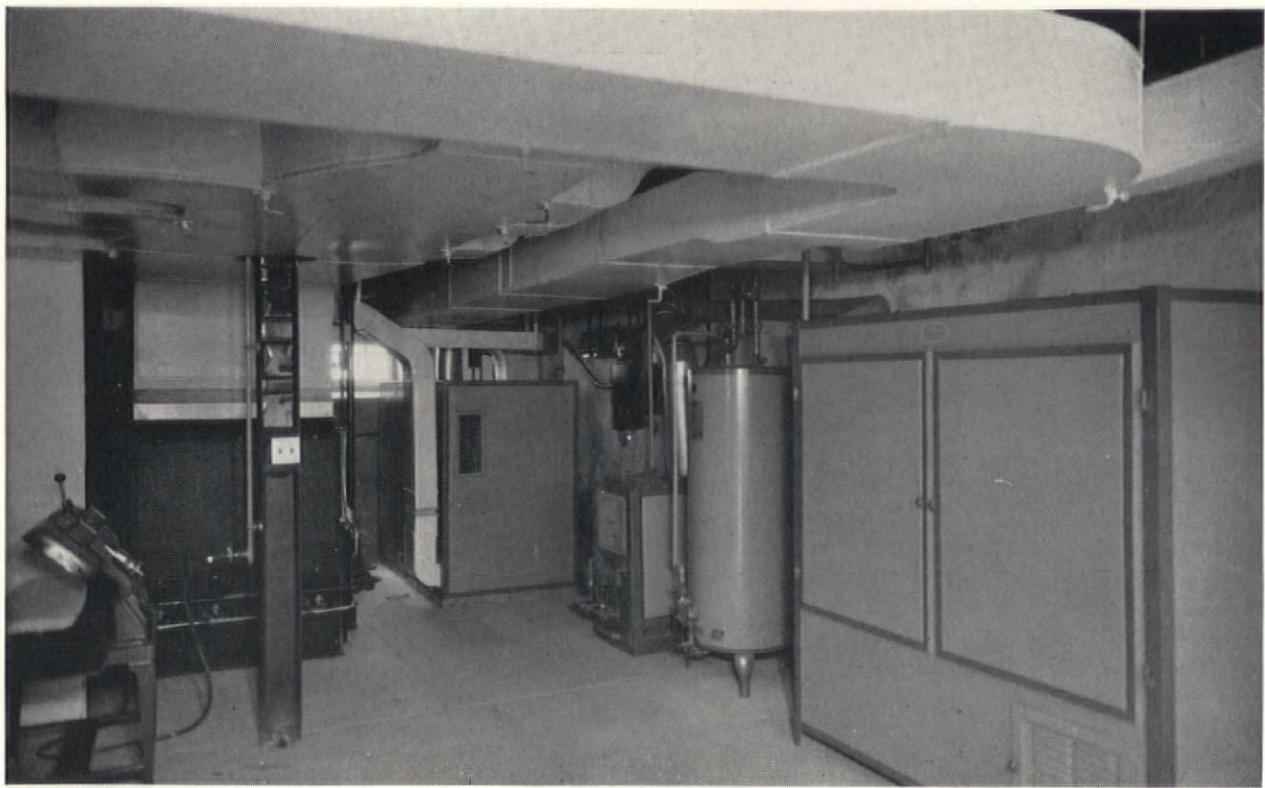


SECOND FLOOR PLAN



BASEMENT FLOOR PLAN

*Plans of all three floors, showing in detail the duct layouts and the location of return and supply grilles. Elimination of difficult bends and reduction to the minimum of duct work kept installation costs to a reasonably low figure.*



D. Sargent Bell

*Although this view of the basement makes an air conditioning system seem complicated with equipment, its compactness and freedom from dirt have made it possible to include a playroom in another section of the basement. Ducts are confined to wall spaces wherever possible, eliminating the low head room that sometimes accompanies duct systems*

wool is used in certain places, and all windows are equipped with a built-in wind break and completely weather stripped. All duct work in outside walls is also insulated.

Double glazing offered more serious difficulties. The type of architecture called for small panes of glass. To use a double sash, such as a storm sash, would have resulted in an unpleasant multiplicity of muntin lines. It was also essential that both sides of both sash could be easily reached for cleaning. A sash within a sash was finally evolved. In order to prevent sticking, after painting for instance, the sash were separated by a filler of soft rubber (see detail) which also sealed any possible opening. When in place these sash operate as one and their appearance is similar to an ordinary sash.

On the basis of the total conditioned space — 21,130 cu. ft. — the heat loss for the house without insulation and without double glazed windows would have been 162,000 Btu. Insulation and double glazing feature lowered this figure to 113,000 Btu., a fuel saving of about 30 per cent.

Air conditioning in winter is accomplished with a gas-fired unit, which consists of fan, washer, humidifier, filter, and heating unit, connected with supply and return ducts to every individual space in the house. Familiarity with this method of winter

air conditioning is general. The summer air conditioning system is less well known. Hence a brief description of the cycle of events taking place in a silica gel system.

First the silica gel itself — a highly absorptive material with an appearance somewhat like clear quartz sand, capable of taking up 40 per cent of its weight in moisture — is contained in a drum which rotates about three times per hour. In the summer fresh outside air is passed through a section of the gel bed, with consequent moisture removal, and is then mixed with a percentage of return air from the rooms. The mixture of dry air and return air from the rooms is passed over an air cooler, through the coils of which flows the house tap water, and then to the rooms to give comfort conditions.

The bed of silica gel used in this process becomes saturated and in the continuous rotation of the drum container passes over hot products of combustion from a gas-fired furnace which drives the moisture out of the gel. The bed so freed of moisture is then ready for another absorbing cycle. The operation described for one section of the gel bed is continuous, in that while one section of the gel bed is being freed of its moisture, another section is absorbing moisture from the air.

The total air circulation within the house when

the silica gel unit is in use, is 2,600 c.f.m., with a varying control of the amount of fresh outside air or return air from the rooms, passing through the dehydrator up to 1,300 c.f.m. averaging eight complete changes of air an hour.

An interesting feature of the silica gel system is the use of the re-evaporative method, or remoistening of the dried air to obtain lower dry bulb temperatures during such periods when the tap water temperature is not sufficiently low to give desired cooling to the air. The unit has 50 per cent greater capacity than any silica gel unit installed. A greater amount of air is dried and as much benefit obtained from the tap water as possible. The air is passed through the same washer humidifier that is used during the winter season. With this method, by adding one grain of moisture per cubic foot of air, the dry bulb temperature is lowered eight degrees.

Elasticity of operation is assured by three distinct means of control, according to climatic conditions, all operated from a panel located in a stairway leading to the basement: (1) air circulation only, (2) air circulation plus cooling by tap water, (3) cooling by tap water plus dehumidification by silica gel.

A typical day from the log books shows the actual results obtained:

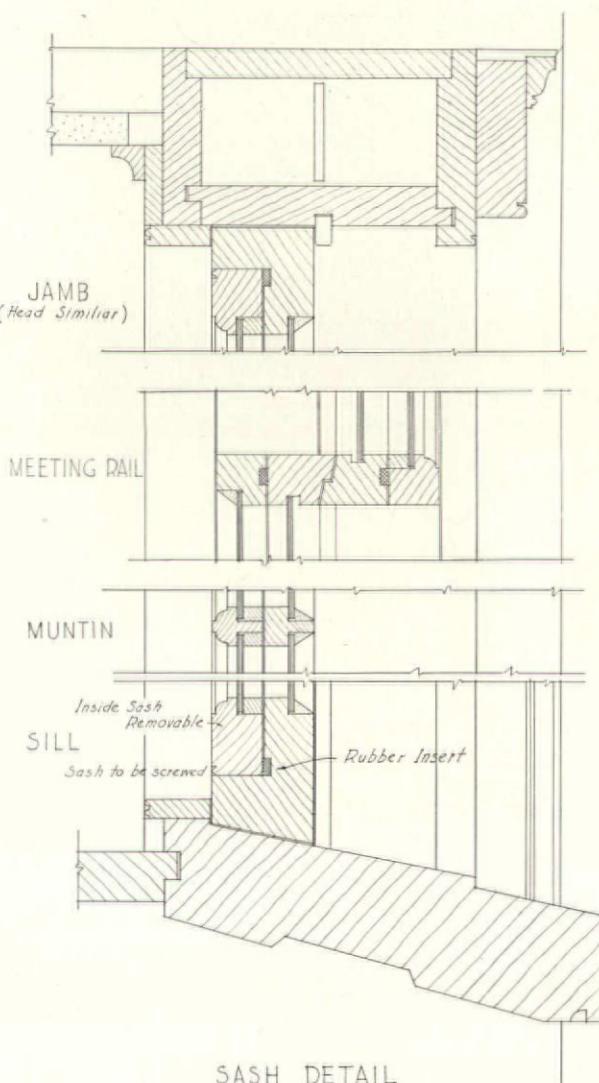
TEMPERATURE		RELATIVE HUMIDITY	
2 P.M.	Outside $85\frac{1}{2}^{\circ}$	Outside	50%
2 P.M.	Inside $72^{\circ}$	Inside	60%
9 P.M.	Outside $75^{\circ}$	Outside	80%
9 P.M.	Inside $76^{\circ}$	Inside	48%

These results were obtained with an attendance of 625 people. Tap water was used.

In addition to the equipment mentioned above is a gas range, gas refrigerator, automatic hot water heater, incinerator, ironer, laundry dryer and garage heater. Cold water for drinking is piped to the master bathroom, pantry, and recreation room.



Not included in the general air conditioning system, the kitchen is mechanically ventilated by a fan over the door



SASH DETAIL

*The secret of heat loss often lies in window construction. The double sash and weather stripping, as illustrated in this detail, solve that problem effectively*



Corner of the pine paneled library. Supply and exhaust grilles, although not shown here, are located in the walls



John Gass

## FIVE SUBURBAN RESIDENCES

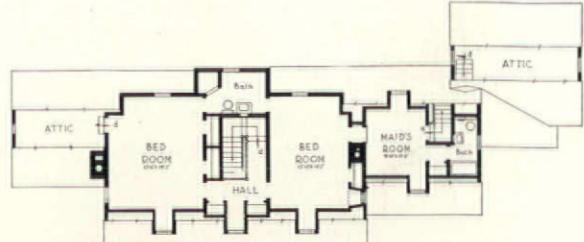
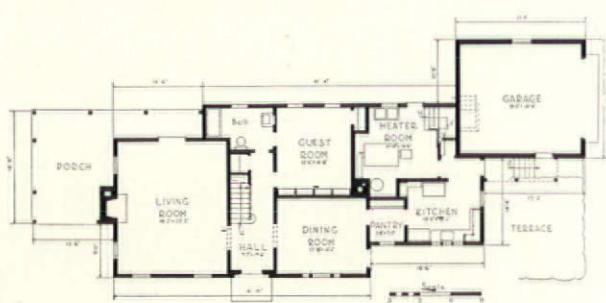
On the foundations of the old chauffeur's cottage and garage which had been destroyed by fire, this new one has been built. Since it faces a beautifully formal garden, it was given a dignified architectural facade, one not usually found in cottages of so small cubage. Built of brick veneer construction, painted white, and with a slate roof, the house and garage cost about 43 cents per cu. ft.

COTTAGE OF STAMFORD HALL ESTATE  
STAMFORD, CONN.  
PENROSE V. STOUT, ARCHITECT



John Gass

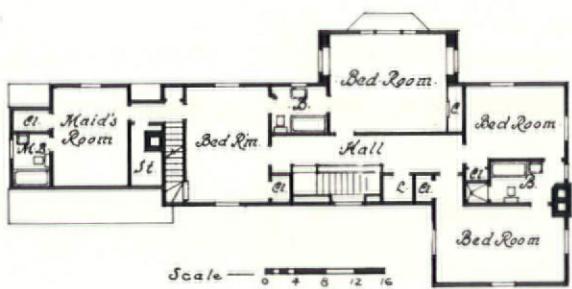
In keeping with the character of the exterior, which Mr. Stout calls "three quarters Early American," the interiors are simple — oak floors, walls papered, except the painted living room



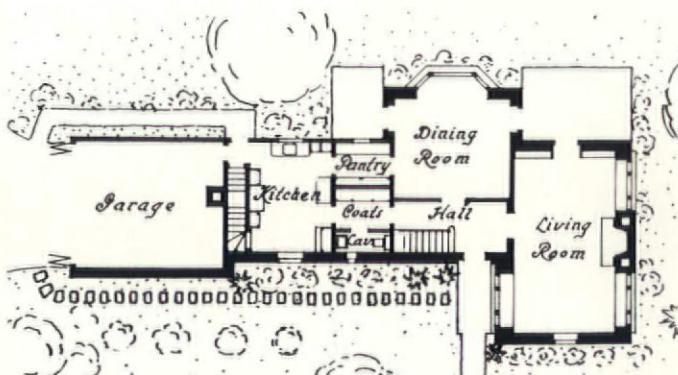
COTTAGE OF STAMFORD HALL ESTATE, STAMFORD, CONN.  
PENROSE V. STOUT, ARCHITECT



All Photos, Dana A. Barnes



Few regions are so fond of their architectural antecedents as Pennsylvania is of its stone and clapboard farmhouse. Adaptable to large or small cubage it is found in varying forms scattered through Philadelphia suburbs. This one, by Pope Barney, is one of the more orthodox forms, L-shaped in plan with added garage and service wing, Chestnut Hill stone laid in random ashlar, white painted clapboards and cedar shingle roof. It cost about 23.8 cents per cu. ft.



RESIDENCE OF E. A. SAWIN  
LAVEROCK, PA.

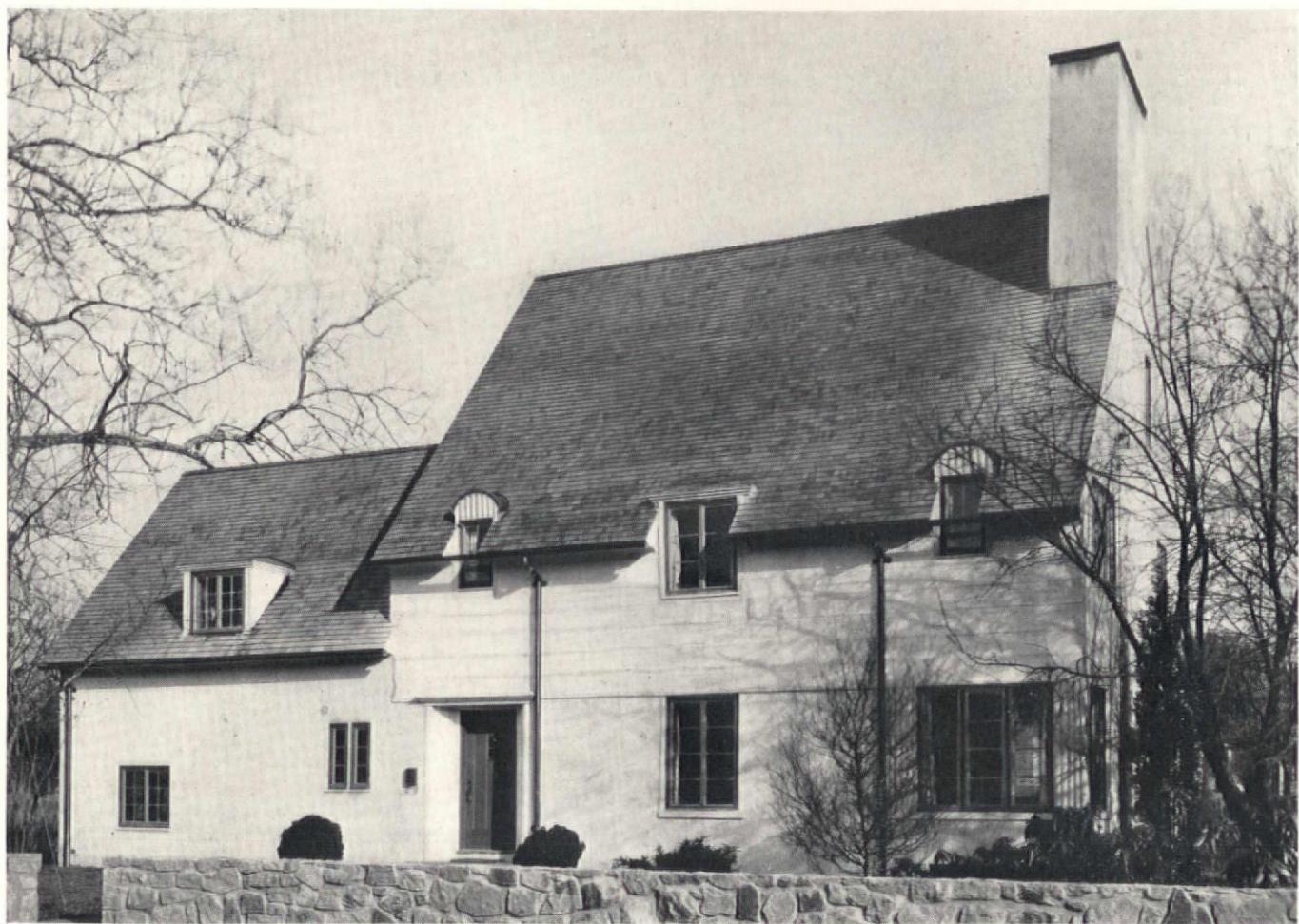
W. POPE BARNEY, ARCHITECT  
ROY W. BANWELL, ASSOCIATE ARCHITECT



With the exception of this pine-paneled living room, which, incidentally, runs almost the entire depth of the house and has three exposures, the rooms are papered and have painted poplar trim. All principal rooms have oak floors, the service rooms being linoleum covered. The heating system is of the oil-fired, hot water type, with partly concealed radiation

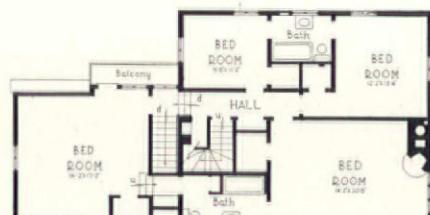
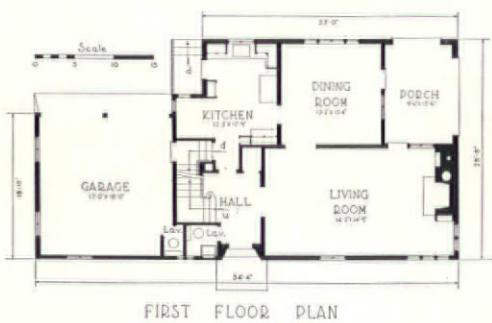
RESIDENCE OF E. A. SAWIN  
LAVEROCK, PA.

W. POPE BARNEY, ARCHITECT  
ROY W. BANWELL, ASSOCIATE ARCHITECT



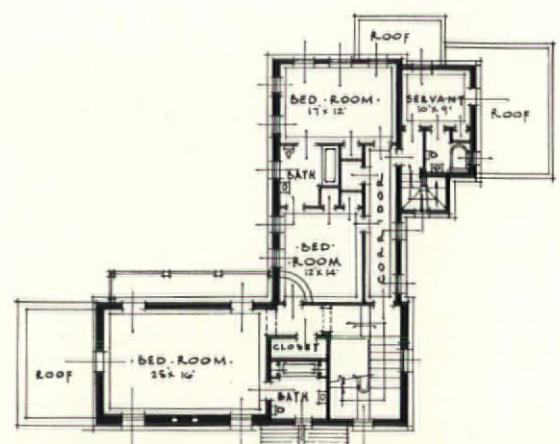
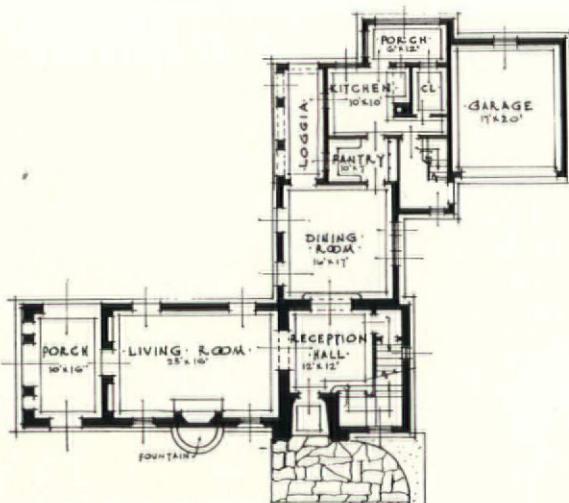
RESIDENCE OF MRS. J. WILLIAM LEWIS  
RYE, NEW YORK  
JULIUS GREGORY, ARCHITECT

Built of frame construction, with stucco on metal lath, this suburban New York house is a modern interpretation of the English cottage. The interesting stucco effect on the second story was obtained by using metal cornice forms. The roof is of black slate, the metal casements painted dark gray and the door stained a deep warm gray. The interior is finished in oak, floors, doors and trim. All but the papered bedroom walls are painted. With a cubage of about 35,000 cu. ft., the house can be built today for less than 40 cents per cu. ft.

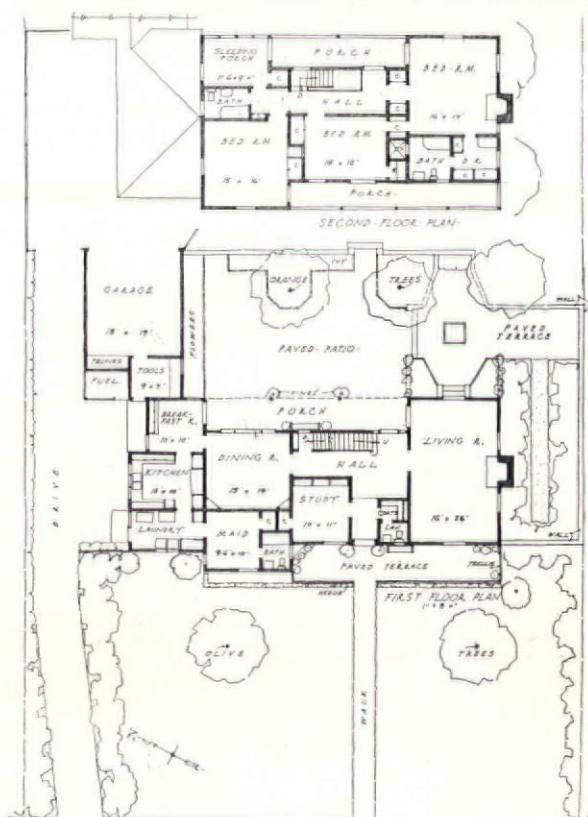




White stucco, red tile and delicate iron balconies recall rural Spain



RESIDENCE OF E. B. CARRUTH  
SAN ANTONIO, TEXAS  
ATLEE B. & ROBERT M. AYRES, ARCHITECTS



Planned so its occupants may enjoy living in Pacific sunshine most of the year, this California house has ample terraces, ample porches, and a paved patio besides. Its 39,000 cu. ft. cost approximately \$15,000 to build. With a reenforced concrete waterproofed foundation, the house is of wood frame insulating board and plaster construction. Walls and exterior woodwork are painted white, with yellow sash and doors. The roof is of shingles stained dark brown. All windows are of wood, double hung.

RESIDENCE OF  
CHARLES H. SCHIMPFF  
SAN MARINO, CALIF.  
WINCHTON L. RISLEY, ARCHITECT



The informal landscaping of the front lawn, above, and the patio, right, offer protection from the sun and provide an attractive setting. The patio has a terra cotta dado. Interiors are plastered and all floors are of oak

RESIDENCE OF CHARLES H. SCHIMPFF  
SAN MARINO, CALIF.  
WINCHTON L. RISLEY, ARCHITECT





All photos, Warren W. Graeff

REMODELED  
BRANCH OFFICE

KENSINGTON-SECURITY BANK AND TRUST CO.  
PHILADELPHIA, PA.

TILGHMAN MOYER CO., ARCHITECTS & ENGINEERS

Like many another remodeled bank job, this one came about as a result of a merger. The original building, a product of the era of side-chopped bankers, was wholly inadequate and inefficient in plan for the merged bank's activities. The half-island working space was torn out, replaced by a U-shaped plan; the interior was scrapped for the kind of Romanesque design that many bankers admire. Heavily ornamented cages gave way to workmanlike bronze wickets. The new walls are of synthetic stone, and the ceiling is decorated with painted designs.

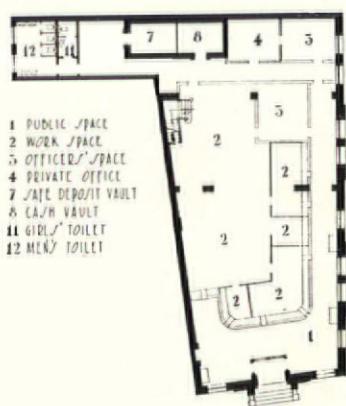




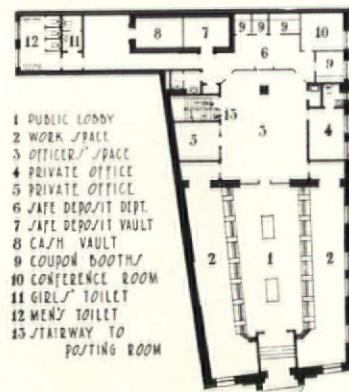
BEFORE



AFTER



Exterior remodeling was held to a minimum, amounting to little more than bringing the entrance steps into an interior vestibule and hanging new entrance doors. The revisions in plan, involving no changes in structure, reduced the public space by 40 per cent, and permitted the relocation of the officers to a space where they would be free from interruptions and at the same time within sight of all activities on the bank floor. During the alterations, business went on almost as usual, with a dustproof screen shielding the half not being worked on from the half being remodeled. A temporary side entrance was installed

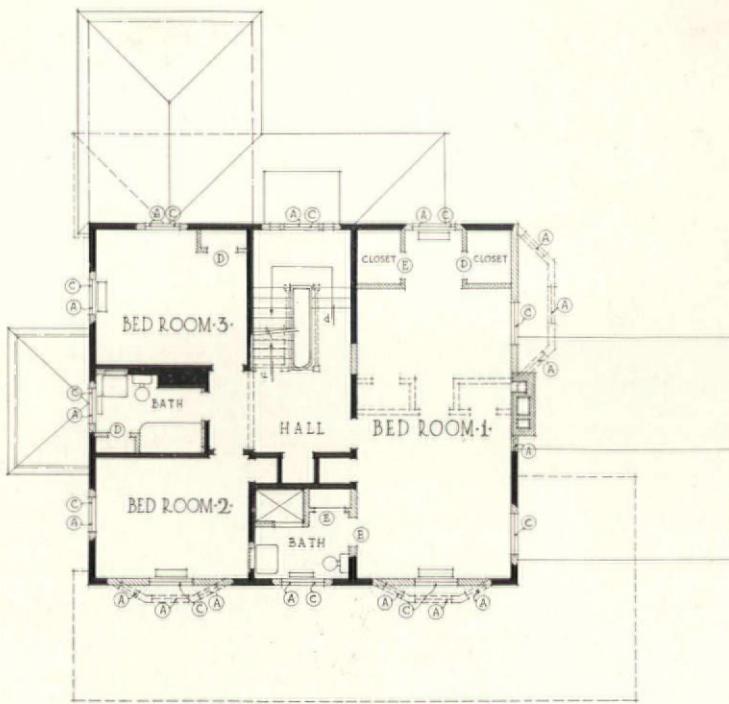


REMODELED BRANCH OFFICE  
KENSINGTON-SECURITY BANK AND TRUST CO.  
PHILADELPHIA, PA.  
TILGHMAN MOYER CO., ARCHITECTS & ENGINEERS

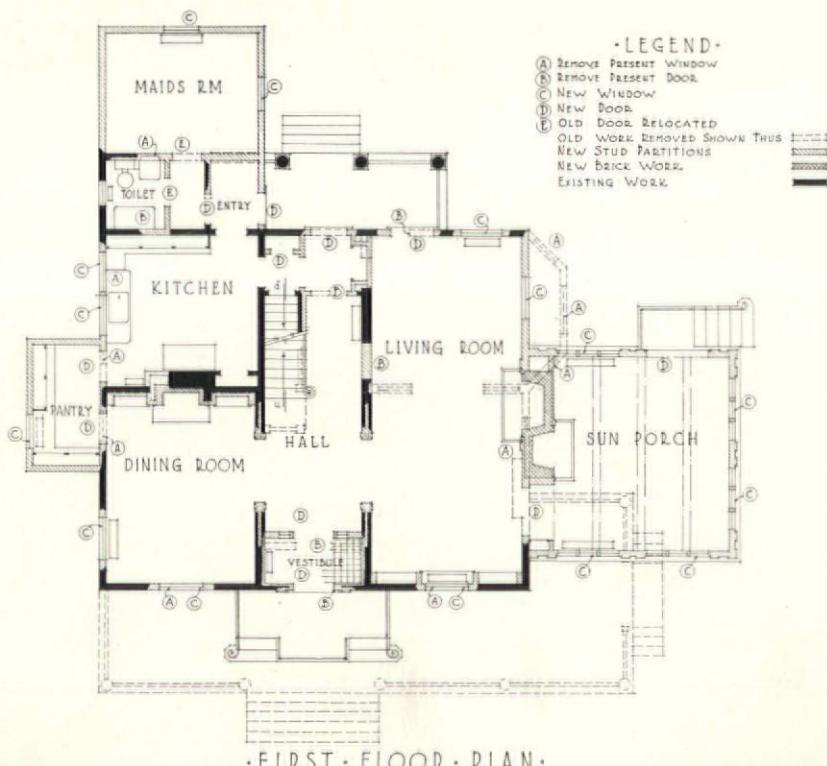


Like the occupants of other impossible houses in ideal locations, the owners of this house reluctantly decided to move and build a new one. When the apparently unconsidered suggestion of remodeling was made, they agreed. Result: ideal location, ideal house, and a saving of \$15,000

REMODELED RESIDENCE OF L. F. CORWITH  
HEMPSTEAD, N. Y.  
LAWRENCE C. LICHT, ARCHITECT



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

The present house has clapboard exterior painted white, dark green shutters, and a black shingled roof. The entrance railing is wrought iron, and leaders and gutters of copper. New oak flooring has been laid on the old floor structure.

Walls are papered throughout with special scenic patterns in the important rooms. All trim is antique glazed and painted. All electrical and mechanical equipment is new, including a vapor-vacuum heating system. Cost \$20,000.

In the process of reconstructing, the foundations, all exterior walls and much of the interior partitioning was saved. The old hip roof was taken off and replaced by a simple gable

## MASTER DETAIL SERIES NO. 6

## THE GEORGIAN COLONIAL HOUSE

SOME apt phrasemaker once said, and many have repeated it since, that the Georgian style is a domestication of the Classic. Marked by the same order and symmetry, Georgian houses yet display beneath their studied details a freshness and a freedom often lacking in other houses with Classic derivatives.

The adaptation that is generally called Georgian Colonial has, in its passage across the Atlantic and down through the years since the late Eighteenth Century, undergone a succession of modifications — all aimed to give the houses Twentieth Century livability without destroying the character established by Ware, Chambers, Taylor and the Adam brothers. The principal change, due, no doubt, to the comparative abilities of craftsmen in those days and these, is the loss of refinement in detail. Architects of today limit themselves to details which they know can be accurately executed. In the Seventeen Hundreds, execution often surpassed the design.

Georgian Colonial houses are built of brick, red or yellow, and occasionally finished in smooth stucco. Roofs, usually of slate, sometimes of tile, are of a moderately flat pitch, although adaptations of early Georgian houses sometimes repeat the steep pitch common before the time of Adam.

With the possible exception of a one- or two-story bay, fenestration is formally balanced, with plank front treatment of the window frames in the earlier examples. In later houses the frame is usually set back with a four and a half inch reveal. Iron balconies, common in English Georgian country or seaside houses, have become a frequent element in the Georgian Colonial of today. The general plainness of the facade lends increased importance to the entrance doorway, in the detailing of which there is a decided preference for the Doric order in all its phases. Leaded glass fanlights, sometimes extending down both sides of the door, are often and effectively used.

Living habits having changed, it is not surprising to find the most noticeable departures from the originals in the interior treatment. The importance

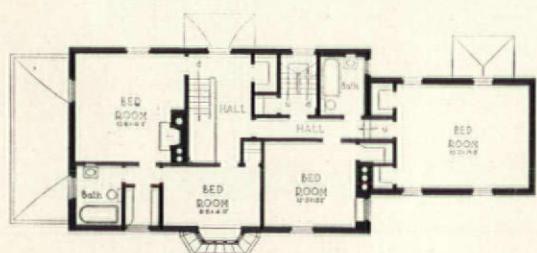
of the entrance hall has been somewhat minimized. One fails to find, for instance, in the usual adapted Georgian, the impressive circular halls that characterized many of the late Georgian houses. There is still, however, a tendency to include coffered ceilings, arcades and niches in the more formal of today's houses. The floors may be patterned marble or stone, or possibly linoleum, rubber or tile imitations.

Where the plan permits, the staircase forms an integral part of the entrance hall design. Marble or stone stairs with delicate cast-iron balusters share favor with wood stairs treated in the same classic form, with perhaps a doric column as a newel post and a thin well-designed handrail.

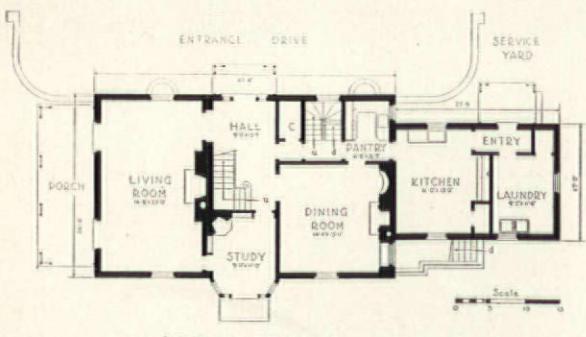
The Georgian houses saw the elevation of the fireplace into a real decorative element, with ornamental panels and surrounds of distinguished character. Sometimes of marble, sometimes of wood, they are usually the focal point of the room. The most common form of marble mantelpiece employs a plain reeded shelf with flat-reeded architraves having simple rosettes at the end. Economy has brought about increased use of wooden fireplaces with composition ornament. Occasionally panels are used in the center of a frieze or over the ends of pilasters. Conventional use of vases, wreaths, swags and similar forms is a frequent substitute.

Another characteristic of the period is the ornamented plaster ceiling, which by its accentuation becomes second only to the fireplace in interest. The plaster is always in low relief conventionalized patterns. Although paneled rooms in orthodox Georgian houses are rarities, Colonial adaptations frequently harbor one or two rooms of delicate paneling. Walls are usually of plaster painted white, cream, or any one of the other low-toned colors. Doors are six-paneled, with small moldings, and occasionally reeding takes the place of moldings.

In the most successful Georgian Colonial houses, the minor details are studied with as great care as the larger elements of the design. Although ample freedom is accorded the designer, consistency of scale and spirit is the base of effectiveness.



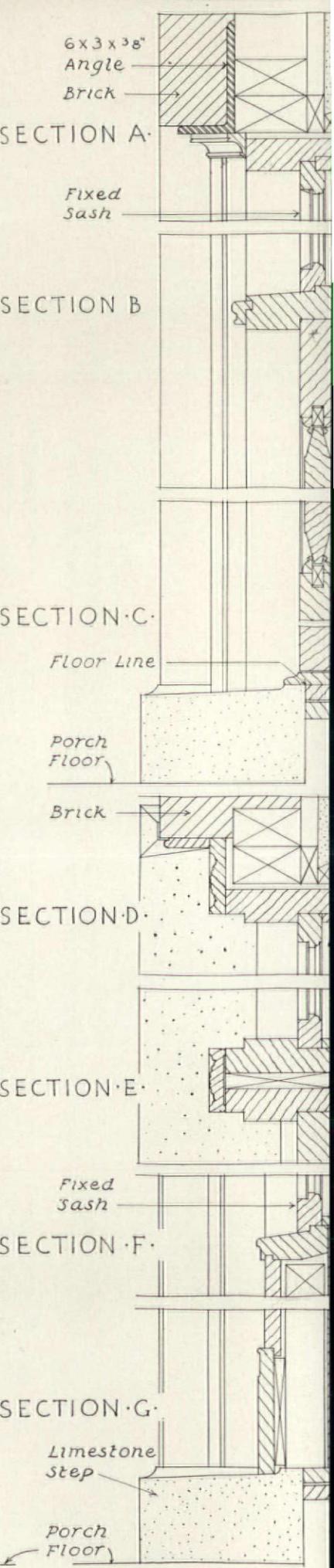
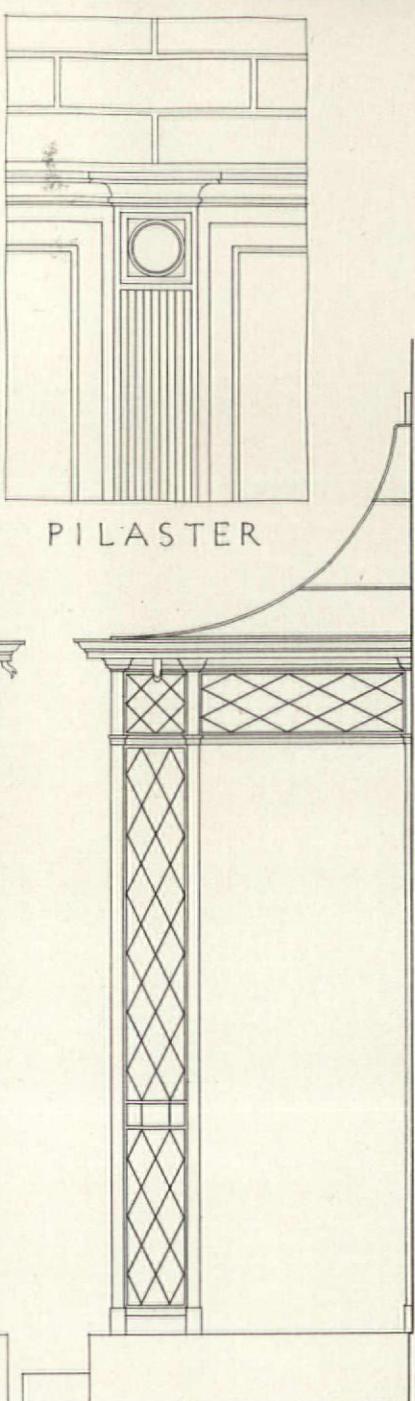
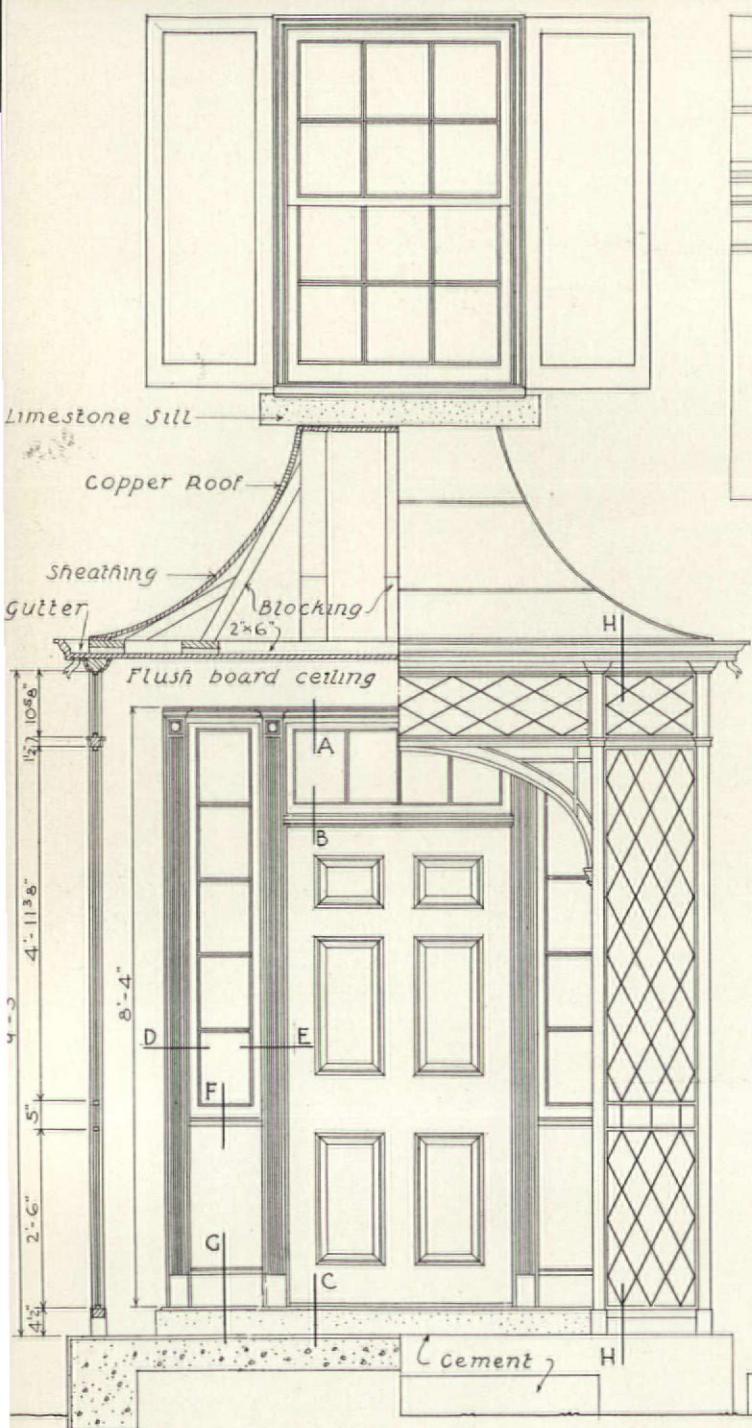
SECOND FLOOR PLAN



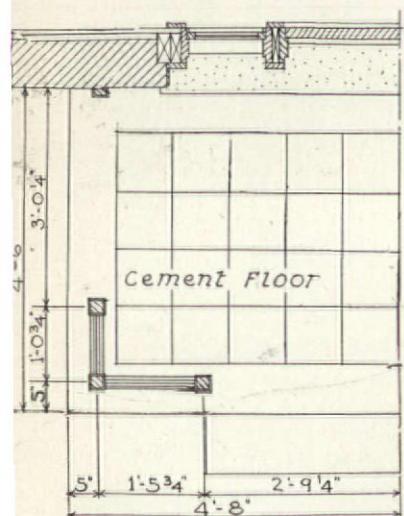
FIRST FLOOR PLAN

**G**eorgian houses have a definite appeal to exacting clients, if this example can be termed as typical. Built as one of three in a restricted real estate development, it was sold before it was finished and established a tone for the entire community. Its walls are of Windsor brick, its roof of small dark gray slate. Since cost was a factor the series of porches were built with simple posts with heavy wire lattice work and copper roofs. The coping is of limestone. Because the house was built to sell, the interiors, although well designed, are rather conventional, having oak floors on the lower level and comb-grained pine on the second floor. Some walls are painted, others papered. At the time it was built, it cost about \$31,000, but that figure could be reduced by six or seven thousand dollars today.



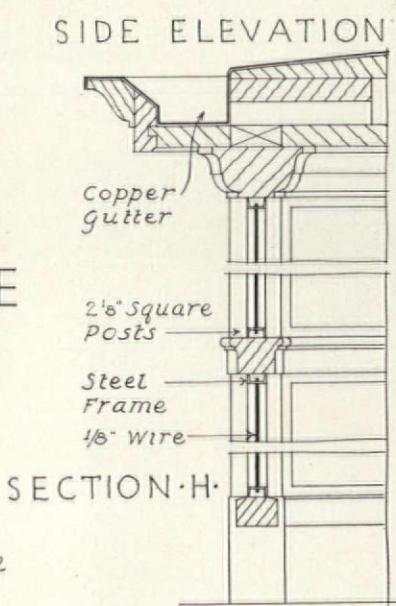


## ENTRANCE DETAILS



PLAN

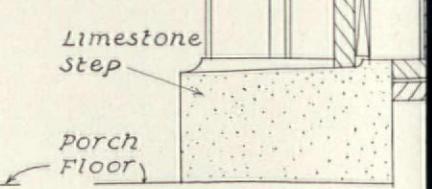
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Scale in Inches



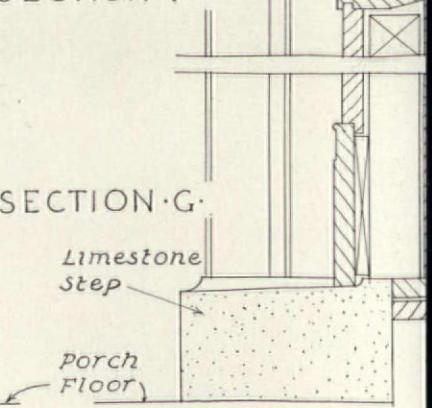
SECTION H.

0 4 8 12  
Scale in Inches

SECTION G.



SECTION F.



SECTION A.

SECTION B.

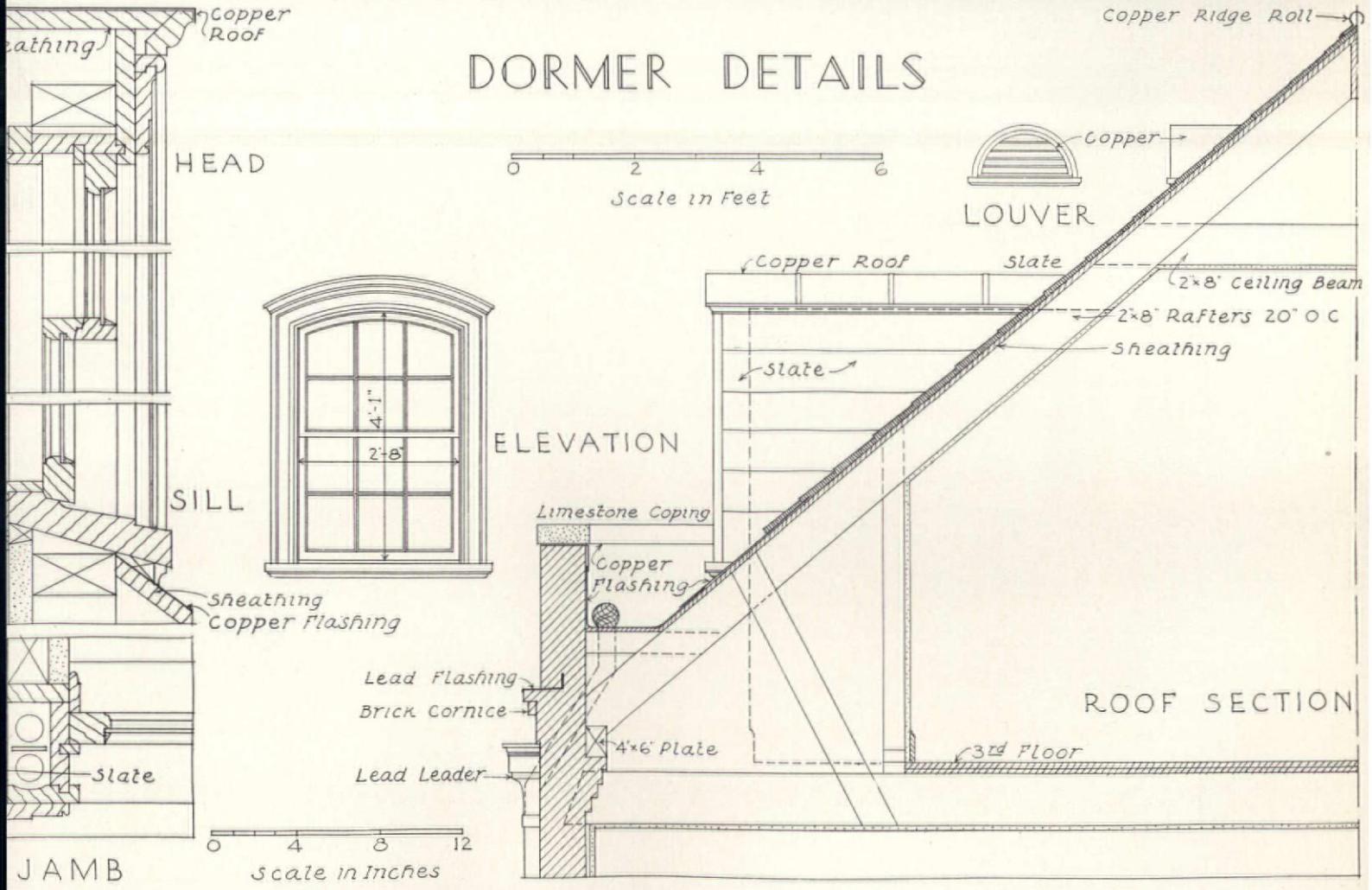
SECTION C.

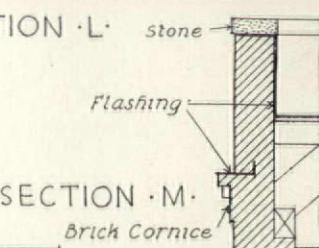
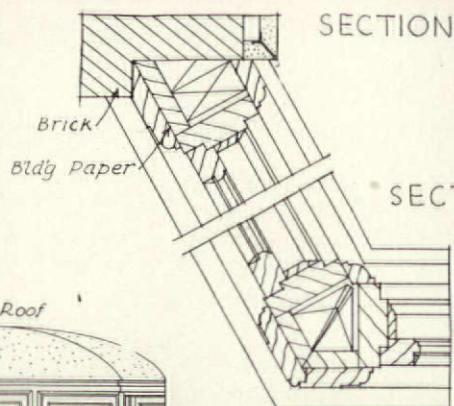
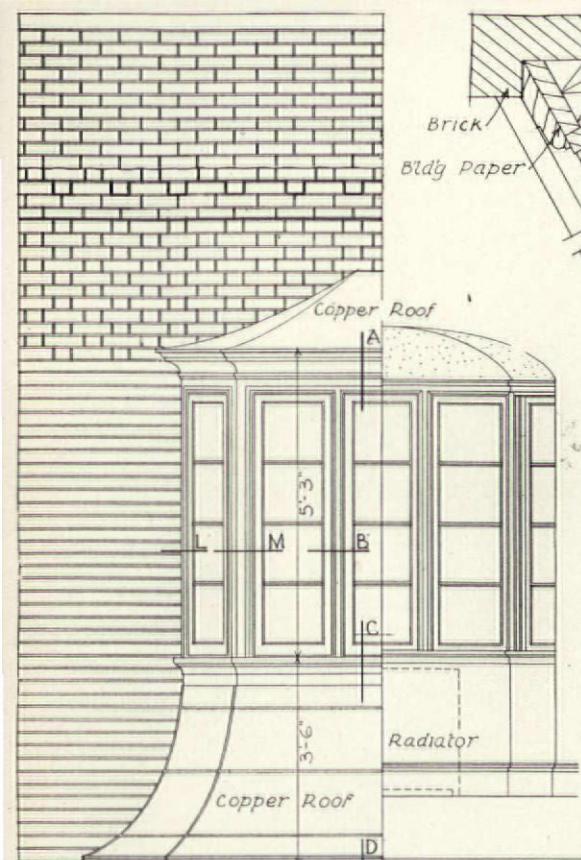
SECTION D.

SECTION E.

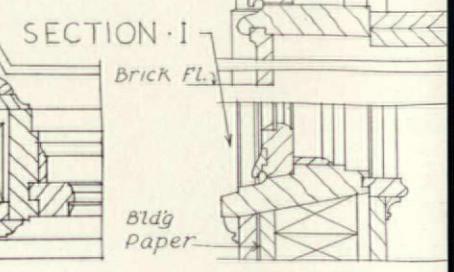
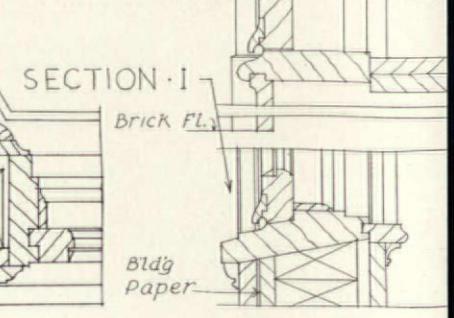
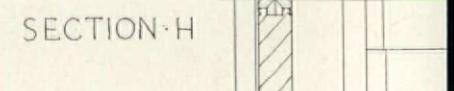
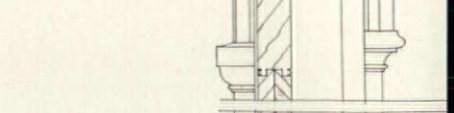
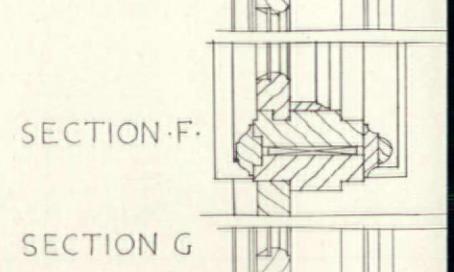
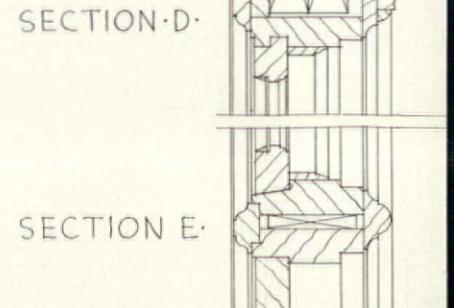
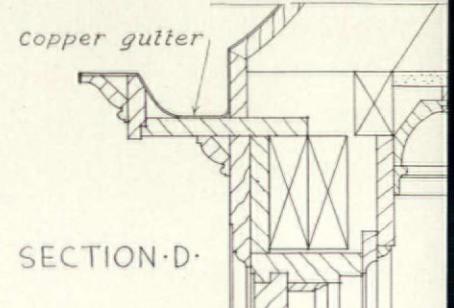
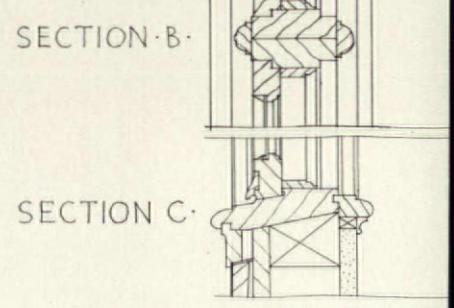
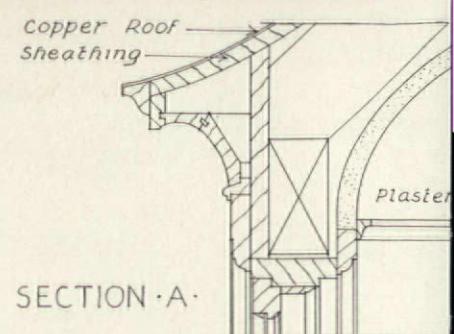
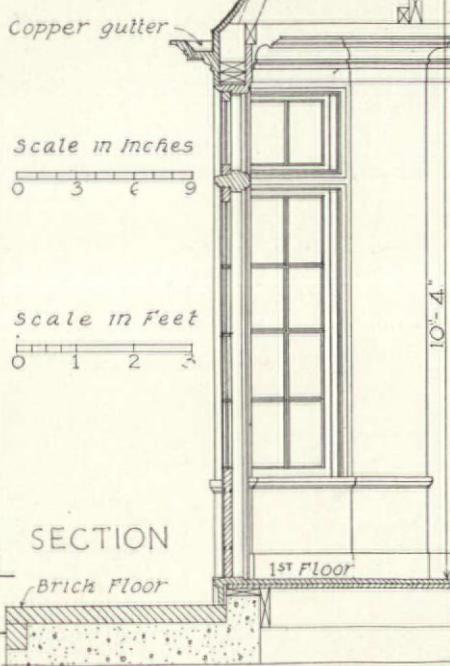
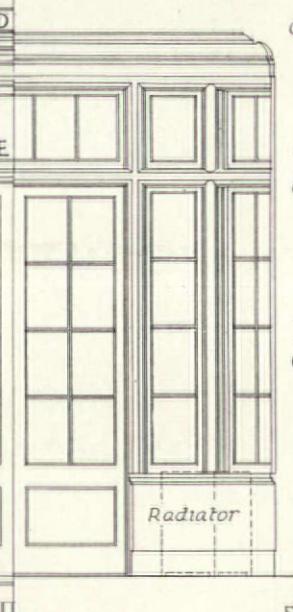
SECTION F.

SECTION G.



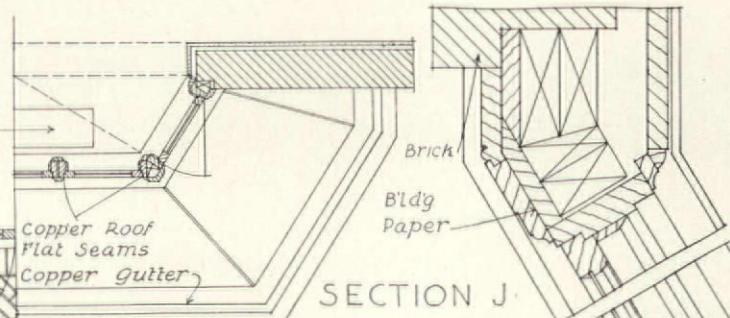
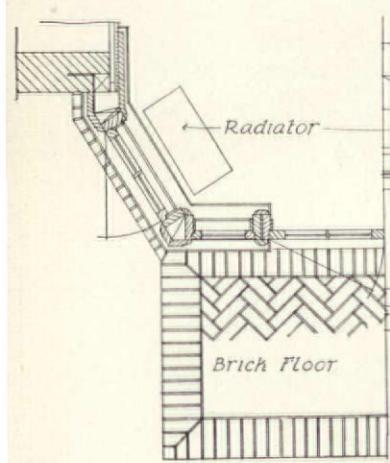


## BAY WINDOW DETAILS



EXTERIOR

INTERIOR



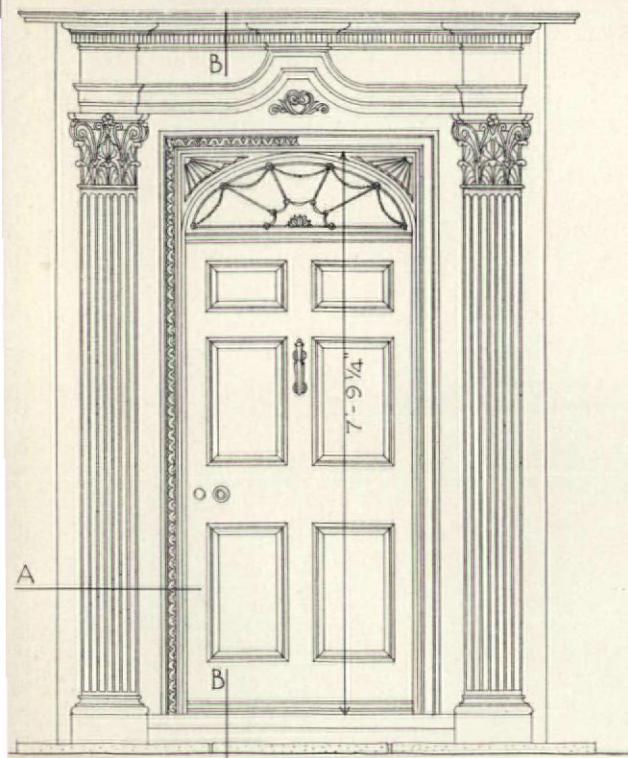
1/2 PLAN OF 2<sup>ND</sup> STORY BAY

Building Paper  
SECTION K

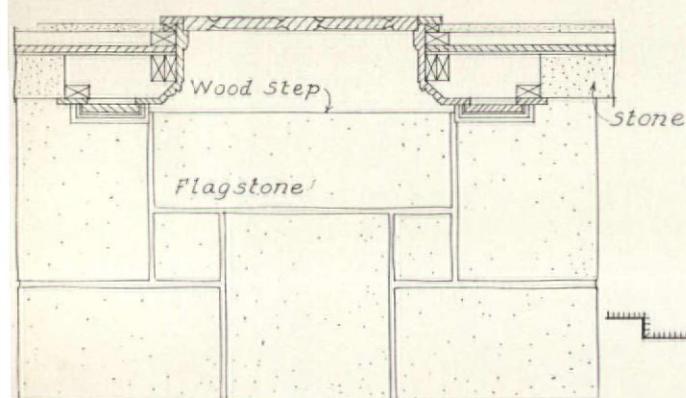
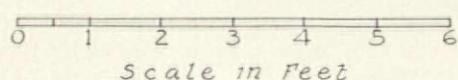
1/2 PLAN OF 1<sup>ST</sup> STORY BAY



## "The House with the Red Door"

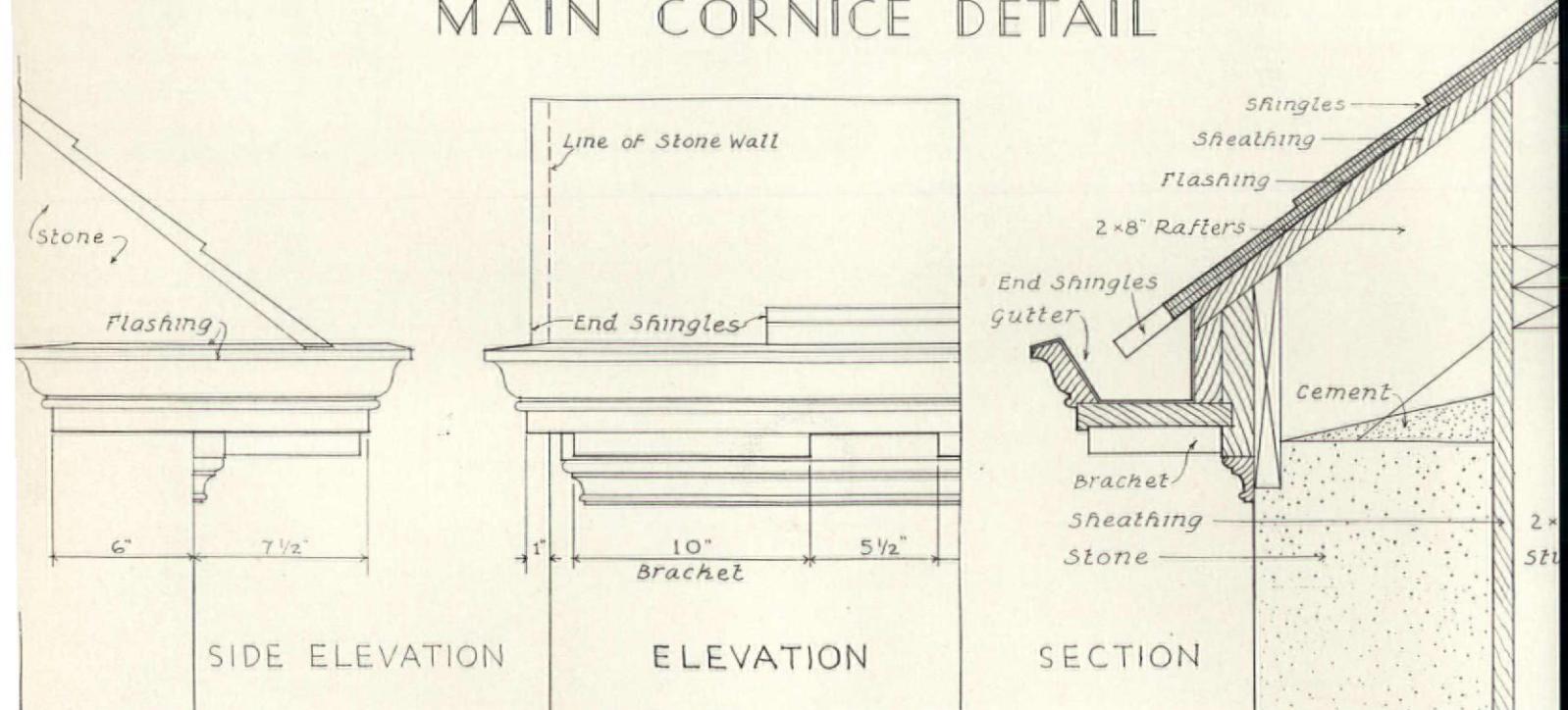


## ELEVATION



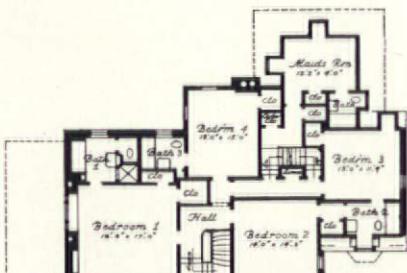
## PLAN

### MAIN CORNICE DETAIL

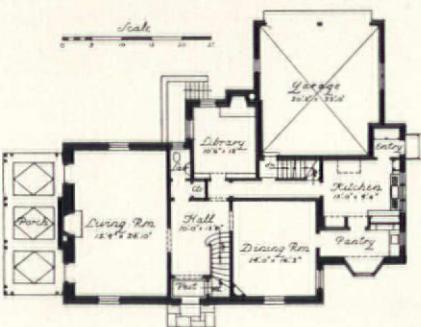




Holiday Costlan



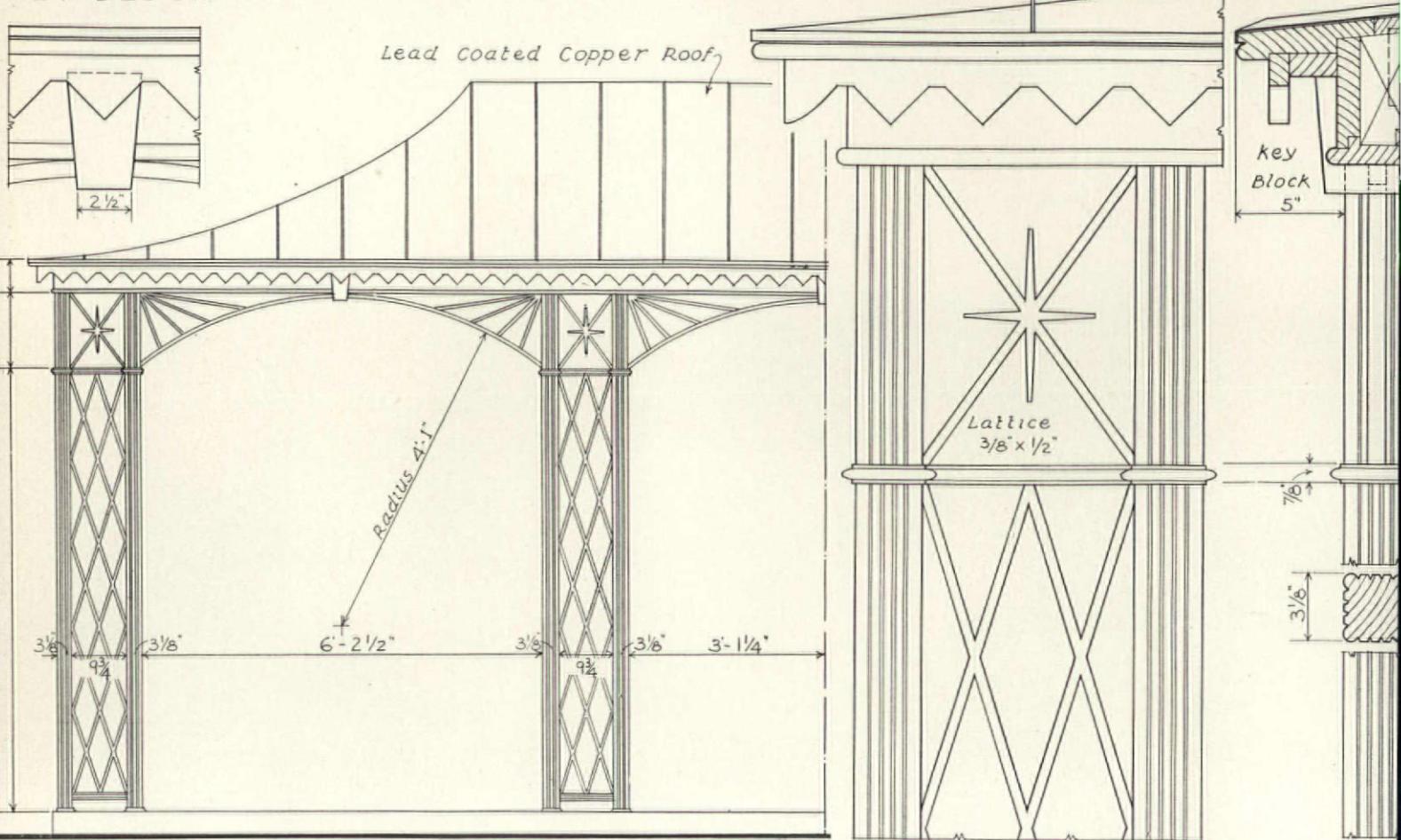
SECOND FLOOR



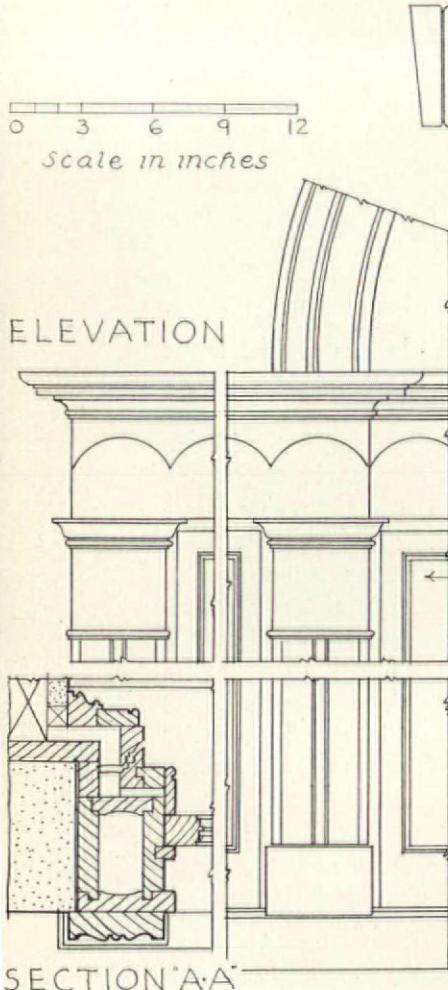
FIRST FLOOR

In Scarsdale this house has come to be known as "the house with the red door," which, although accurate enough, characterizes only one of its points of interest. Based on a rather popular type of small Georgian country house, it is of frame construction with stone veneer painted white. The side porch, although originally intended for wrought iron, has been executed in wood with a cement floor. Its roof, and that of the bay, is lead coated copper. The main roof is of asbestos shingles, weather treated. The living room mantel is of the clean-cut reeded type and the slate fireplace breast is reminiscent of a McIntire house. All the flooring is of strip oak, except in the library, which has wide plank flooring and is pine paneled, with the backs of the bookshelves picked out in red. The heating system is of the oil-fired vapor type with an integral humidifier. Cubage, 45,000 cu. ft.

## KEY BLOCK



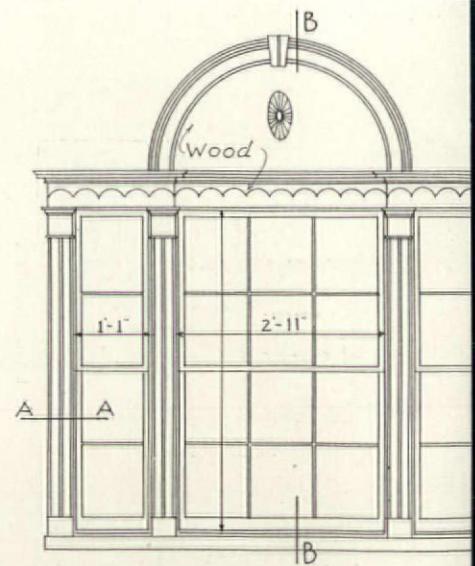
## ELEVATION



This technical diagram illustrates a cross-section of a window frame, labeled with various components and sections:

- Flashing**: A thin metal strip used to seal the junction between the window frame and the wall.
- Key Block**: A large, rectangular stone block used to support the weight of the window frame.
- Stone Flashing**: A thick, rectangular stone block used to seal the junction between the window frame and the wall.
- HEAD**: The top horizontal part of the window frame.
- sash**: The glass pane or frame that slides within the window frame.
- SILL**: The horizontal part of the window frame at the bottom.
- SECTION B-B**: A label indicating the specific cross-section being shown.

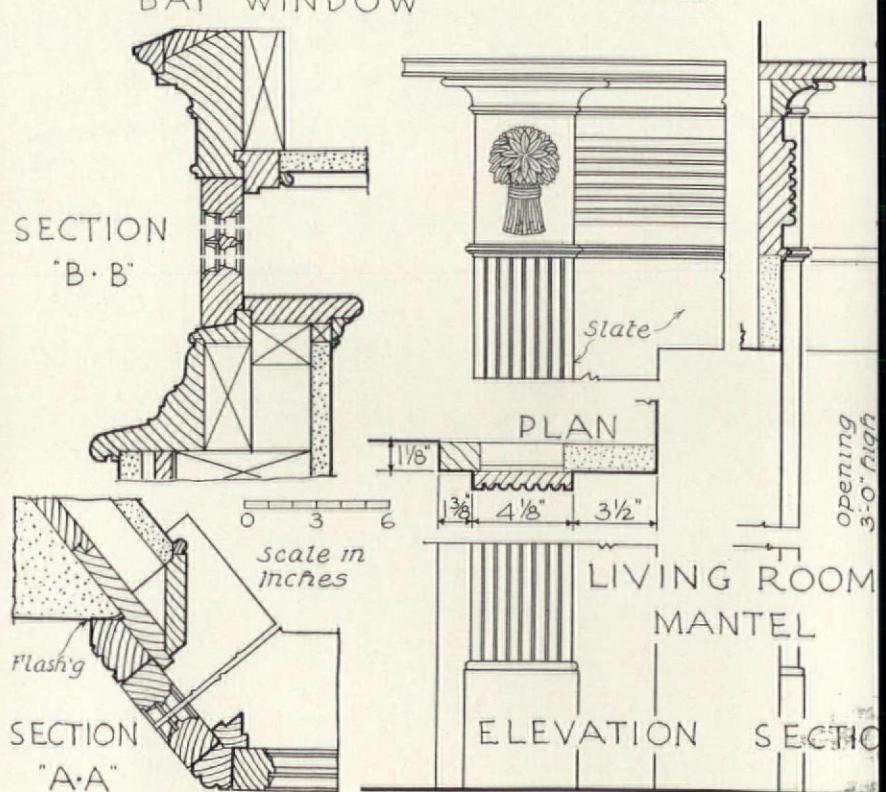
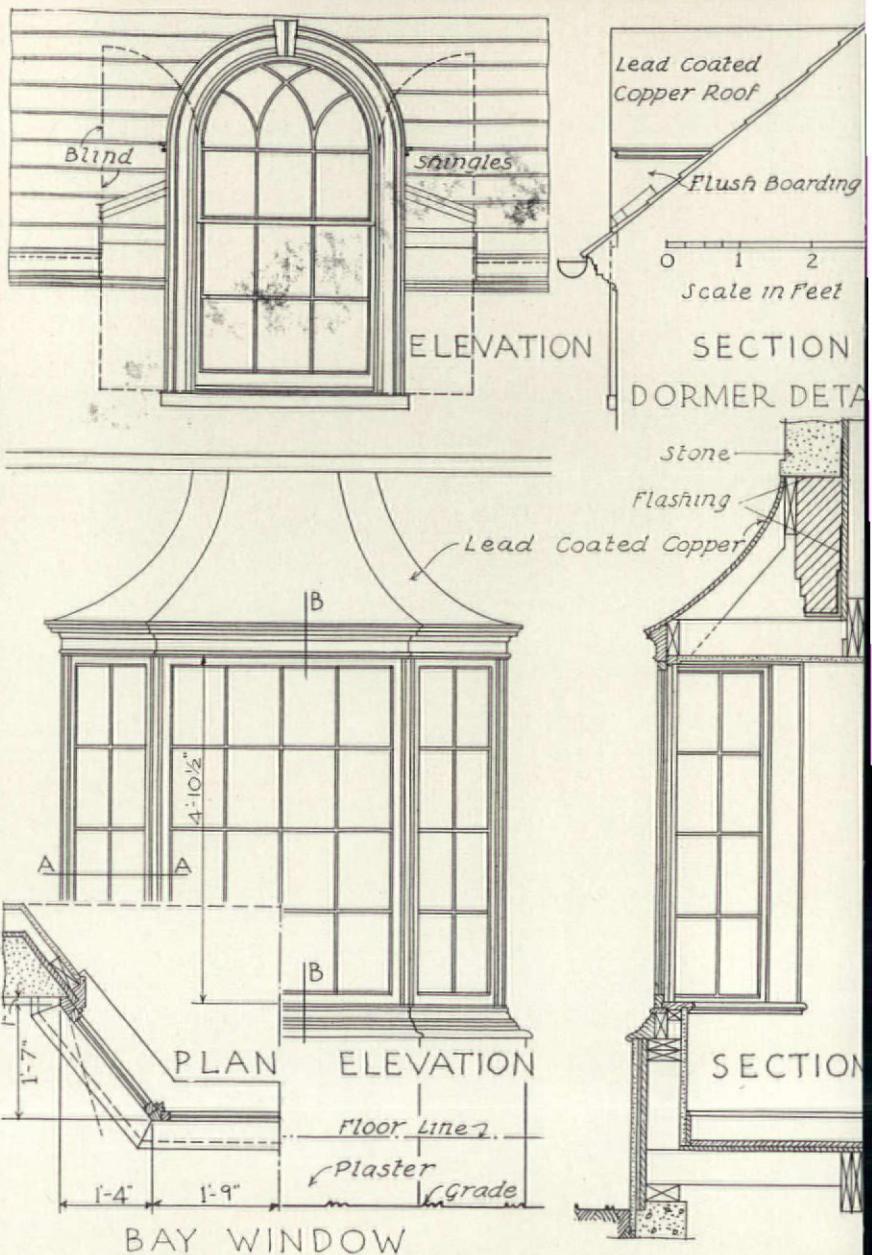
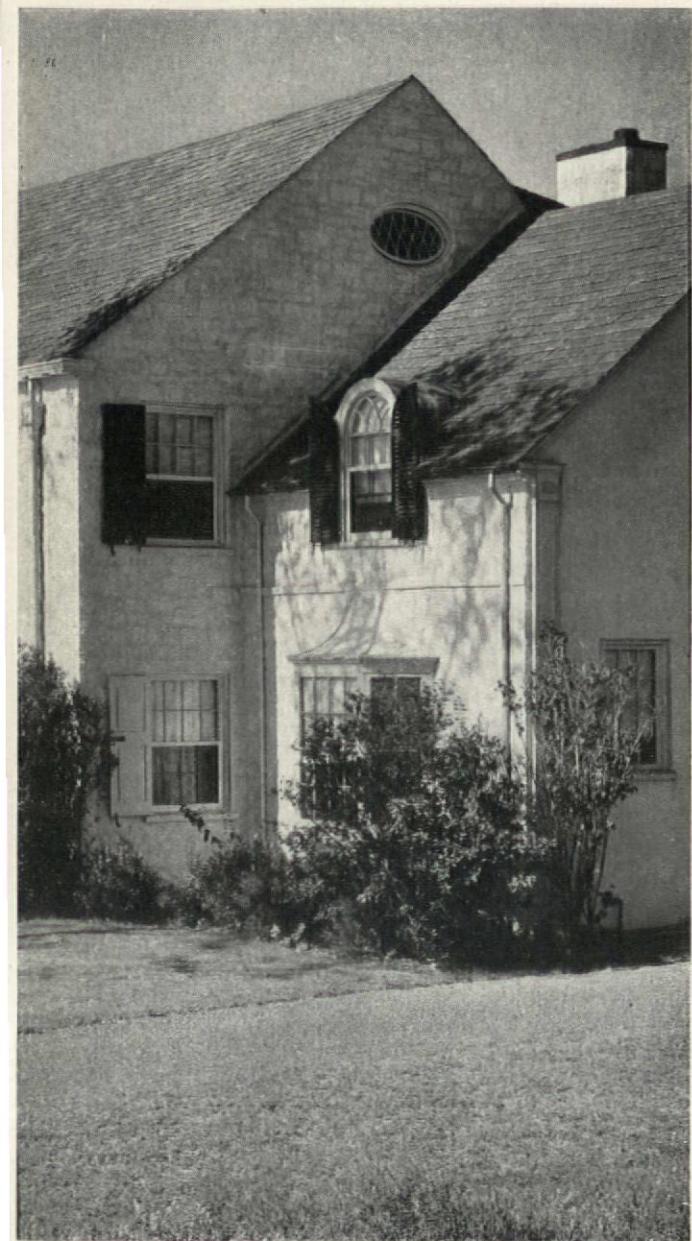
## ELEVATION



## PALLADIAN WINDOW & PORCH DETAIL

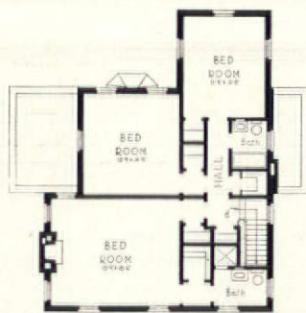
Scale in Feet







Tebbs

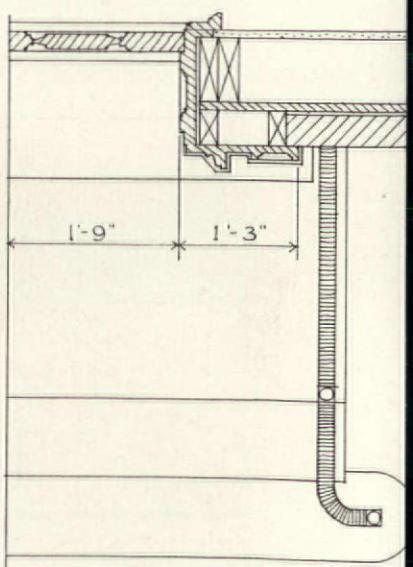
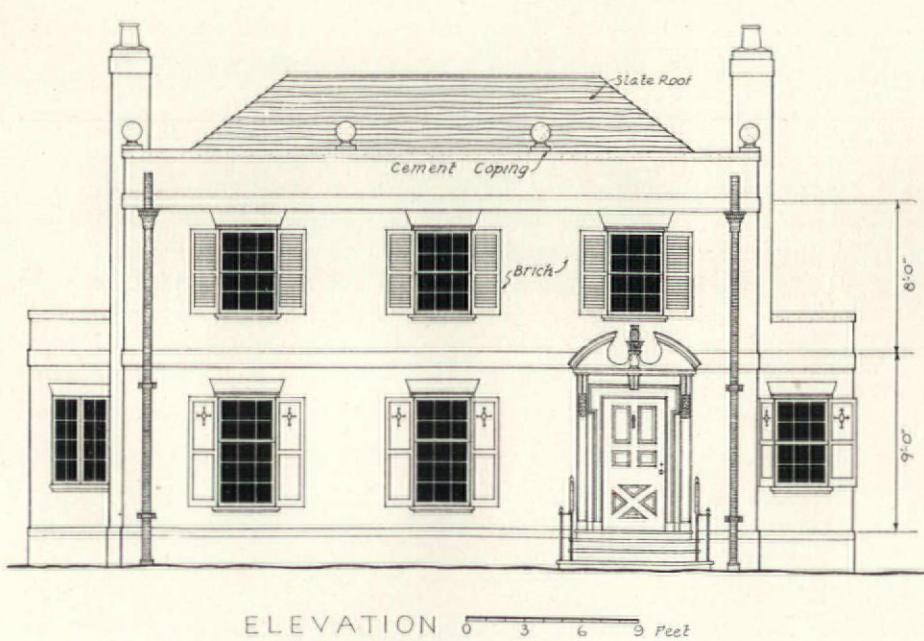
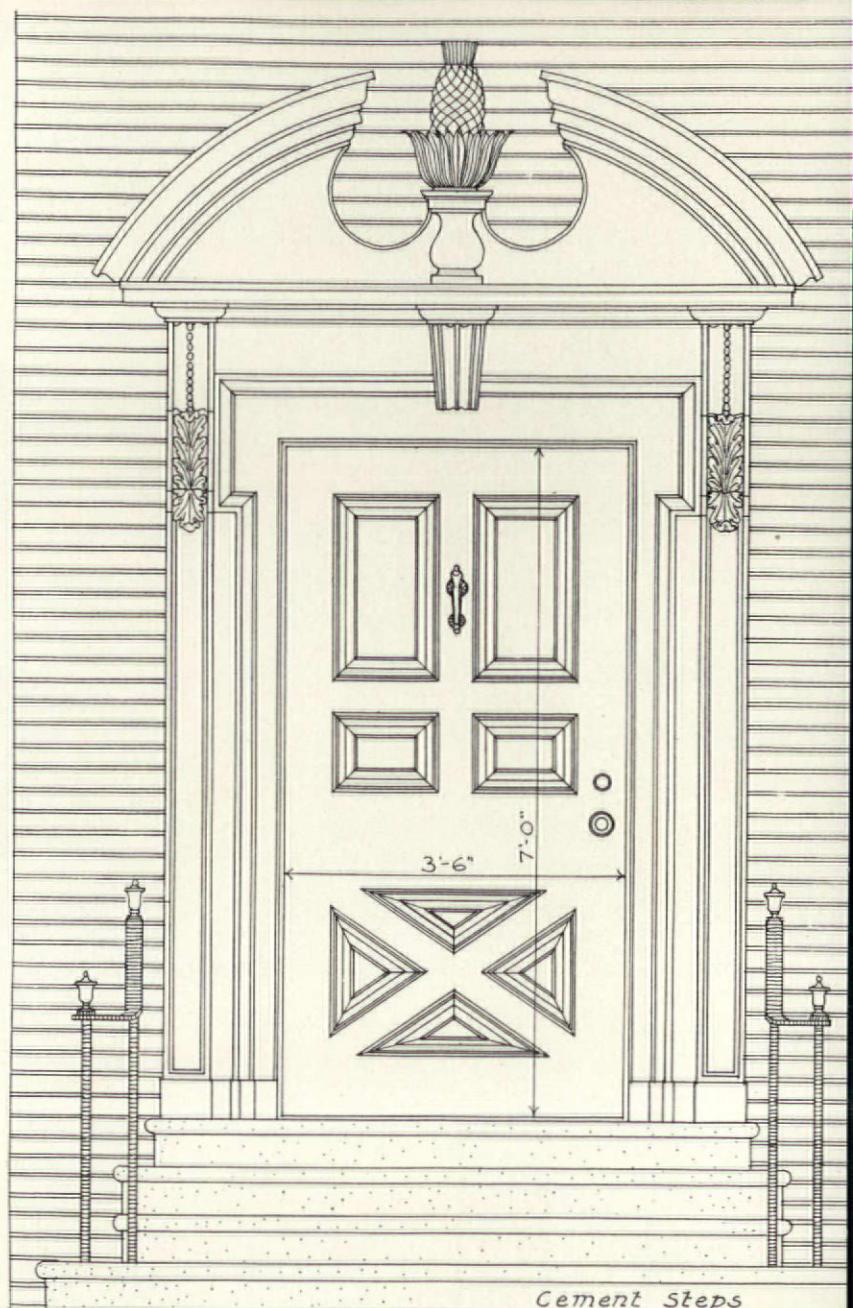
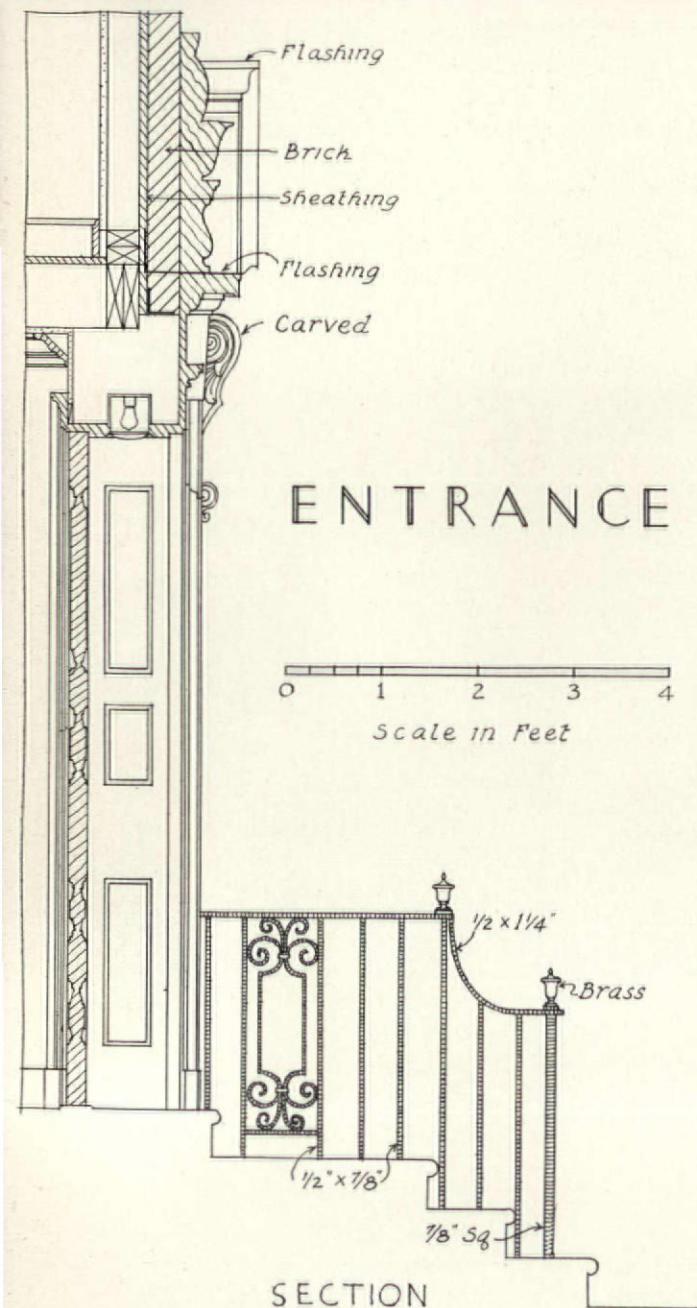


SECOND FLOOR PLAN



FIRST FLOOR PLAN

Liberties which the original Georgian architects did not permit themselves are sometimes taken by architects of today in adaptations, particularly when, as in this case, the town house is being adapted to suburban surroundings. In general, however, the treatment is decidedly Georgian. Since the details are simple, particular care was exercised in selecting a warm-colored red brick for the walls. The roof is of slate, gray and black, with terra cotta chimney pots, cast cement finials and coping, and lead leaders and gutters. The entrance door (see details, page 62) and the stock window frames and shutters are painted off-white. Marble steps lead up to the entrance and the handrail is wrought iron. For the interiors, an acoustic wallboard, homasote, was used instead of plaster as a base for papering and painting. In some cases, stock trim is used to emphasize the joints as paneling, and in others they are sealed with a plastic compound. Oak floors are used in the general rooms, tile in the bathrooms, linoleum in the kitchen, and rubber in the sun porch. With the exception of a mahogany handrail, all interior trim is stock, painted pine. The heating plant is the vapor vacuum type. Cubic foot cost, about 29 cents



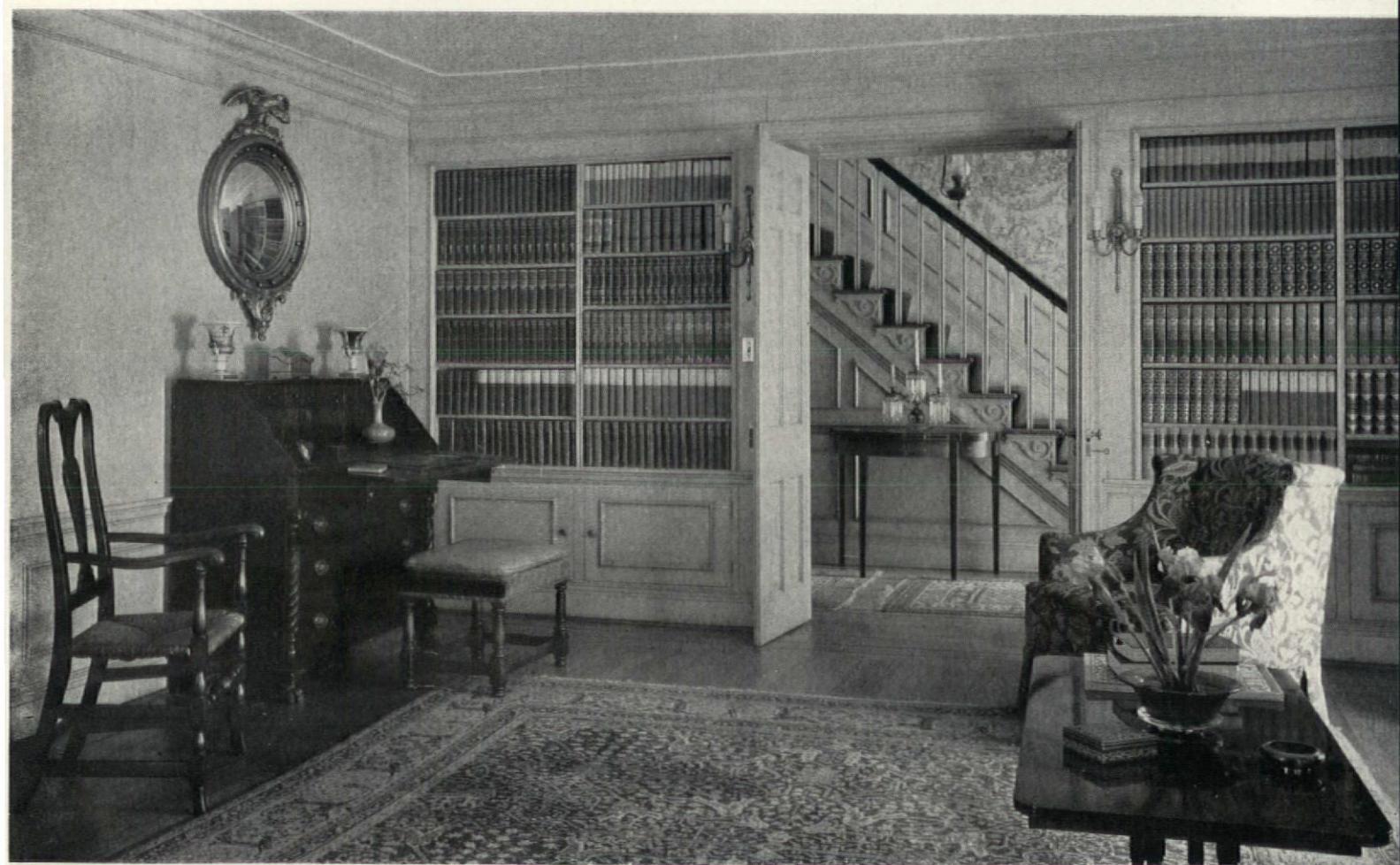
ELEVATION 0 3 6 9 Feet

1/2 PLAN





Interior details of this house are all assembled from stock moldings



## “HORS de CONCOURS”

WITH KENNETH MURCHISON

WHEN December rolls around, as it does most every year, we are glad. Not because we believe in S. Claus or K. Kringle. They're just a couple of Wiggins to us; all dressed up in red suits and whiskers. No, indeed! It is because the Beaux Arts Ball is coming, on January 19 to be exact, and that is the day — or night, rather — when the architects show their superiority over all other species of mammals. They collect the most famous beauties, the most distinguished actors, the most soulful musicians and the most researchful of costumists and call it “The Beaux Arts Ball.”

This particular enterprise of the industrious Beaux Arts Architects has backed all other costume balls off the beach, so far as New York is concerned. Nobody else has the nerve to try to compete. Except a few fellows like Roxy perhaps, who puts on a Beaux Arts Ball once a week in Radio City, a philanthropic enterprise owned by Mr. Rockefeller and Mr. Hood (the latter in back salary).

### “Marco Polo” \*

As explains our handsome and high-flown master of publicity, Arthur Ware, this effort of the BAA (which has practically nothing to do with the AAA, PWA, CWA or SOB) will surpass anything previously offered by our vast aggregation of talent. It is a sort of a three-ringed circus: three producers; three scene painters, Peixotto, Hiron and Herter — you know the old story of the artistic-minded girl who couldn't decide whether she preferred a painter or a sculptor or an architect, so she let them all make love to her, with the result that Albert Herter, Karl Bitter and Charley Klauder! (Sounds like an Ed Wynn but it has to me the unmistakable aroma of an old George Chappell.)

### The Great Khan

Well, where were we? Oh yes, Marco Polo. Yes, that's it. Our own BA librettists took Marco Polo and made him fall in love with the beautiful daugh-

\* Not to be confused with Groucho Polo, only twelve chukker player of his day.

ter of Kublai Khan, the Ruler of the World. Kublai was quite a boy in his time. He had very little time off from his favorite pastime of battling every other nation he could find, but in his spare moments he led a happy, peaceful home life with four regular wives and five hundred not-so-regular ones. By them (and I'll bet on the five hundred) he begot twelve legitimate sons and thirteen illegitimate sons, beside a generous sprinkling of little Mongol daughters. How's that for a Khan, Albert? And you too, Ely? Let's look to the records, if any.

### Romance

Well, the story unfolds itself that Marco Polo goes to China and meets the great Khan; but better still, meets his daughter the Princess Kokachin. They were both prostrated when the Khan came in and so, thus side by side, they naturally became acquainted very easily. Who wouldn't?

But Marco's Venetian XIII century pride is slightly disturbed by the fact that the beauteous celestial slant-eyed yellowtail is betrothed to the aged and slightly damaged Shah of Persia. So he, Marco, being possessed of a certain hunting instinct found here and there among male animals, offers his Venetian galley and entourage to escort the Princess to Persia, a short journey of some two years or so.

But, even after two years, when they arrive in that rug-making country, she is still pledged — and still undamaged. But what does the great Shah do? Like a good old Shah, he promptly dies on her, very convenient like. She, then, poor thing, doesn't know whether she will be beheaded or married off to the Shah's oldest son and have to weave wash cloths for the rest of her life!

Imagine her surprise, and pleasure, I might add, when she finds out that she *will* be beheaded, within an hour, *unless* — and here's the catch — she can find a noble of foreign birth who would consent to marry her. Imagine! By the merest coincidence, yes, the *merest coincidence*, there sits the very fellow! Young Marco Polo! From the Canal Zone!

And so she is saved. And very much to the relief of the audience, too. "It isn't history," they said, "But it's oh! so human!"

The builders of the Beaux Arts Ball always want the audience to go home with a good taste in their mouths. This year it will be better than usual, but mostly on account of repeal, we think. However, we feel sure that the story of the beautiful Chinese princess and the handsome Venetian explorer will thunder down the ages as no story has ever done, even if it was written by an architect who got zero in history.

#### Architects' Rose Bowl

It had to happen some time. You just can't keep Californians from challenging the supremacy of the East in anything. First it was climate, then football, then tennis, and last summer polo. And now they want to swipe the architectural halo from the New York boys.

Everything would have been all right if someone at Macy's store hadn't thought up the bright idea of sending the Forward House models to a store in San Francisco. Probably they thought they were sending a little architectural enlightenment to the provinces; but when the Californians got a look at the houses that had been designed by Messrs. Hood, Corbett, Walker, Harmon, Kahn, Van Alen, Schultze, White, they are reported to have said "Phfft!" (or its California equivalent). "We can do better than that."

Naturally the store, always willing to promote local talent, told them to go to it. And they set up eight prizes of \$100 each for the best houses. Some time in February, they're going to run off the big show; and while our sympathies are with the Skyscraper Sextet, our money is on the *vaqueros*.

Incidentally, the scrimmage is under the patronization of the well-known Arthur Brown, who, back, in those dear old student days was the best line drawer in the atelier. He knew by heart thirty-one cartouches and fifteen balusters, not to mention a dozen or so male and female statues of all sizes and nudities, with here and there a prancing horse or a skulking lion.

And while we're on the subject of Arthur Brown, it would be a good idea for him to come out and take a bow for one of the finest monuments ever piled up in this or any other country, including the Scandinavian. We refer, of course, to the Coit Memorial Tower in San Francisco.

#### Save-The-Building-Week

The logic of Secretary Ickes is something we admire. There are a lot of other things we admire about him too, principally his ability to tell his critics where to head in. But his logic is superb. Architects, he said to himself, put up new buildings. There are no new buildings to put up. Therefore,

why can't they preserve the old ones? So, with a fistful of PWA money, 1,200 architects are being put to work hunting up old historic buildings, tagging them for preservation with more PWA money.

Personally, we like the idea. We could never get much kick out of reading plaques that say, "On this site stood the old Dingwhiffle Mansion, where George Washington was entertained by Pocahontas." And then you look up and see a Greek restaurant. We like to see the houses themselves, walk through them, crack jokes about the furniture, and test the springs of the beds.

According to Leicester Holland, who is the head preserver for the country, architects are to be asked to compile lists of the historic buildings in their respective bailiwicks. Well, Leicester, here's ours:

1. The Architectural League Building in New York. If you don't get to it quick, the sheriff and the mortgage man will be ahead of you.

2. The Empire State Building. As a lesson to future generations.

3. Tony's on 51st Street. Sooner or later, we're going to get tired of this New York non-vertical drinking law. And there's a chair in Tony's that we've been sitting in so long and so often, we're going to enter it in the sculptural group of the League show this year.

4. All the buildings we've designed. You'll be able to get collectors' prices on them 100 years from now.

And, then, we think the preservers' committee should be supplemented by a wreckers' committee. Certainly there are more buildings that ought to be torn down in this country than to be put up. Friendship compels us not to draw up our list.

#### Anonymous Architecture

We saw by the papers that they've opened the William Rockhill Nelson Museum in Kansas City. We don't know what other papers said about it, but the New York papers ran columns and columns of text, and two- and three-column pictures. It must have been an important event. We got so interested in it that we read all the columns and looked at all the pictures; and when we got through, we hadn't found a line on the architects. The stories told about the man who gave the money, who the directors were, the names of the seventh and eighth assistant curators, and a list of the swells who prowled through it on the opening night. But who the architects were? Not a word.

Well, for the benefit of the Associated Press, the United Press, and all their affiliated papers, which give pages and pages to the shooting of Squint-Eyed Scalucci, and the bedroom doings of the divorcing Mr. & Mrs. Jones, the architects were Wight & Wight. Give them, as the sporting gentlemen say, a break!

# ALUMINUM FOIL FOR INSULATION

A RESEARCH REPORT

BY JOHN HANCOCK CALLENDER

THE principle involved in all uses of aluminum for insulation is the reflection of radiant heat. Still air offers a higher resistance to the transmission of heat by conduction than any available insulating material. Unless special precautions are taken, however, considerable heat will be transferred through an air space by radiation and convection. All insulations are special provisions for the elimination of heat transfer through an air space by radiation and convection. Convection may be minimized by subdividing the air space into small cells. Radiation may be almost eliminated by bounding the air spaces with a material of low thermal emissivity (i.e., a material which does not readily absorb and emit heat).

Highly polished metals which reflect most of the radiant heat are the most efficient materials for this purpose. Since all metals have a very high thermal conductivity, however, and since reflection is exclusively a superficial function, the thickness of metals used for insulation must be reduced to the practical minimum in order that heat transfer by conduction may be prevented.

Highly polished aluminum is one of the most reflective surfaces known and, unlike most other bright metallic surfaces, retains its reflectivity practically undiminished under dead atmospheric conditions. It is readily rolled into sheets of any thickness down to 0.00023 inch. Aluminum in this form, highly polished foil, is suitable as an insulating material.

Aluminum foil may be applied to structural materials or insulation, or it may be used to subdivide an air space. It is obtainable already applied on building paper, insulating board, plaster board, and paper-backed wire lath. When used to subdivide an air space, several sheets of foil may be separated by a skeleton framework of wood or other material, or by sheets of corrugated paper or asbestos, or by partially crumpling the sheets of foil. When the air space is to be divided only once or

twice, aluminum foil on heavy paper may be nailed between studs, joists, or rafters. The relative merits of these methods will be discussed later.

**Insulating Properties.\*** The conductivity of aluminum, like that of other metals, is very high. The conductivity of quiet air at normal temperature is 0.175 B.t.u./hr./sq. ft./°F.,<sup>1</sup> lower than that of any other material available for insulation. The only method of rating aluminum foil as insulation is by comparing the conductance of an air space subdivided by foil with that of a space of similar dimensions insulated by other material.

Before this can be done the optimum spacing between sheets of foil must be determined. The minimum conductance through a single air cell between aluminum foil sheets was found by Mason<sup>2</sup> to occur at a distance between the foils of slightly more than 0.6 in. (0.63 in. according to Dickinson and Van Dusen, Am. Soc. Ref. Engrs. J., 1916, quoted by Mason). However, for the maximum insulation of a space of given width, which is the problem usually encountered in building insulation, the conductance is reduced as the number of foils is increased. The decrease is much less marked as the air space is narrowed beyond 0.3 in., and the majority of authorities give approximately this figure as the optimum spacing; Gregg<sup>3</sup> gives 0.5 in. for flat foil and 0.33 in. for crumpled foil.

Coefficients of thermal emissivity are given in reference to a theoretical "black" surface which absorbs and emits all of the heat rays striking it. Most common building materials have an emissivity of about 0.95; that is, all but 5 per cent of the radiant heat striking these surfaces is absorbed. Highly polished aluminum has an emissivity of 0.04–0.06; or, 94–96 per cent of the radiant heat striking it is reflected. (See Table I.)

\* There are various patents covering the use of aluminum for heat insulation, among them United States Patent Nos. 1,757,749, 1,890,418, and 1,934,174. Others are pending. These should be investigated before using.

The surface resistance of aluminum to the flow of heat is greater than for most other building materials. This means that the difference in temperature between aluminum and the surrounding air and objects is greater than for other material. The coefficients of surface transfer of heat for common building materials average 1.34-1.65 B.t.u./hr./sq. ft. °F., whereas aluminum averages 0.7 or less.

Aluminum foil is most efficient as an insulator when the sheets are separated by a framework of wood or rigid insulation board. Properly designed, this type of insulation practically eliminates convection, reduces radiation to a very small amount, and in conductance approaches the conductivity of air. As can be seen in Tables 2 and 3, the conductance of aluminum foil, air space insulation of this type compares favorably with that of other good insulation materials. Foils of .005-0.00023 in. thick are used, the thinner foils having slightly lower conductances. For protection in handling, in this type of insulation, the outside sheets of foil may be pasted on heavy paper or cardboard, at a slight loss of insulating efficiency. Sheets of corrugated paper may be used

instead of a wood frame for separating the sheets of foil. This gives a less fragile and therefore for some purposes more practical form of insulation, but the conductance is somewhat higher. Sheets of corrugated asbestos similarly used have the advantage of being fireproof, but they lower the resistance still further.

Dr. E. Dyckerhoff of Hanover invented the method of crumpling the foil and partially straightening it out so that the successive sheets would space themselves at approximately the optimum distance apart, without the need of framework or other separators. The amount of metallic contact, permitting heat loss by conduction, is said to be very slight. The air space is divided into small cells, rendering convection negligible. Conductance of crumpled foil insulation is slightly higher than that of the rigid separator forms, but it is still comparable to other good insulators. It found immediate application for the insulation of curved and irregular surfaces, such as pipes, tanks, and marine, railroad and vehicular transportation.

Foil for this purpose is specially embossed to aid

"BLACK"	1.0
CONCRETE	0.97
BRICK	0.935
ROOFING PAPER	0.975
PLASTER	0.93
GLASS	0.95
ALUMINUM PAINT	0.50-0.40
ALUMINUM ~ COMMERCIAL "POLISHED"	0.20-0.25
BRASS	0.24
COPPER ~ SLIGHTLY POLISHED	0.17
ALUMINUM ~ HIGHLY POLISHED	0.04-0.06
COPPER	0.06
SILVER	0.06

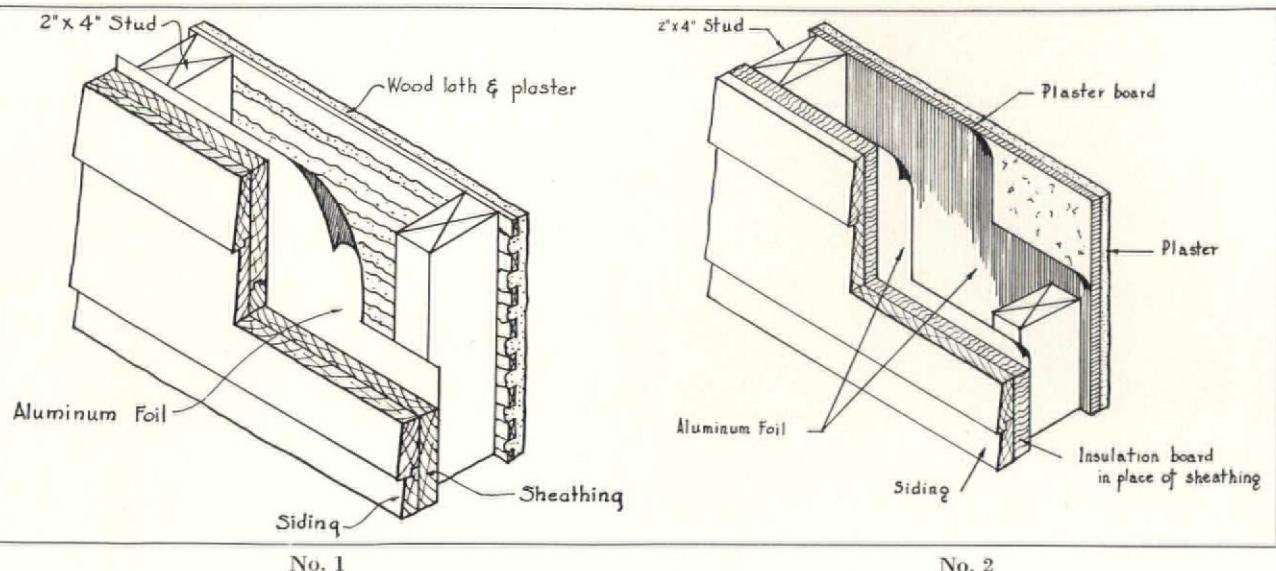
Table I, coefficients of emissivity of various surfaces in relation to emissivity of "black" which is rated as 1.0

MATERIAL	BTU./hr./sq.ft./°F.
SIDING, PAPER, 1" SHEATHING, 2" x 4" STUDS, WOOD LATH & PLASTER	0.25
1/2" INSULATING BOARD	0.19
1" "	0.15
1/2" CORKBOARD	0.11
2" "	0.095
FLAKE GYPSUM FILL	0.093
ROCK WOOL	0.066
1/2" BLANKET	0.17
ALUMINUM FOIL ON ONE INSIDE SURFACE	0.193
~ ONE CURTAIN BETWEEN STUDS	0.134
~ TWO "	0.103
~ THREE "	0.077
~ FOUR "	0.074
~ ON BOTH SIDES OF 1/2" BLANKET	0.108
~ CRUMPLED FILL-3 SHEETS PER 1"	0.067

Table III, rates of conductance through a typical frame wall insulated with various types of materials

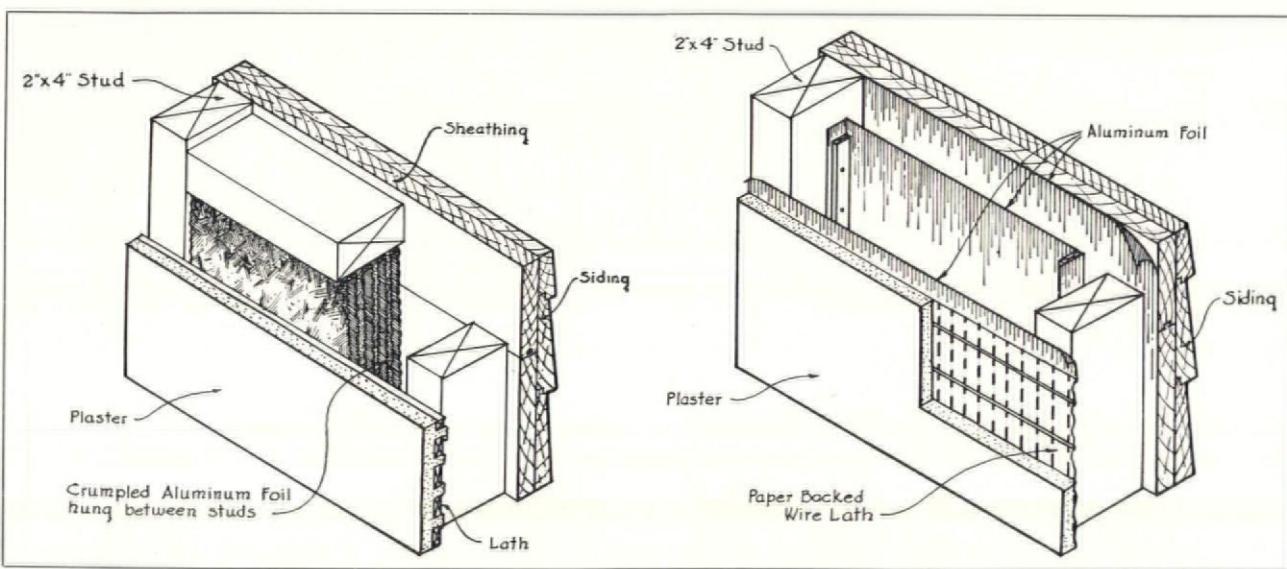
MATERIAL	BTU./hr./sq.ft./°F.
AIR	0.175
HIGH VACUUM	0.004
CONCRETE	8.0
GLASS	5.0
BRICK	4.0-5.0
YELLOW PINE	1.0
PLASTER	2.32-8.8
STONE (AVERAGE)	12.50
ASBESTOS BOARD	0.48
CABOT'S QUILT	0.25
CELOTEX	0.32
CORKBOARD	0.27
DRY ZERO	0.23
FLAXLINUM	0.30
MASONITE	0.35
THERMAX	0.46
TORFOLEUM	0.26
MINERAL WOOL	0.26
ALUMINUM FOIL-3 SHEETS PER 1"-IN SKELETON FRAMEWORK	0.20-0.22
ALUMINUM FOIL-3 SHEETS PER 1"-BETWEEN CORRUG. PAPER	0.254-0.275
~ IN SKELETON FRAMEWORK	0.298-0.443
~ FOIL WITH THIN COAT OF LACQUER	0.227
ALUMINUM PAINT ON PAPER-3 SHEETS PER 1"-IN SKELETON FRAMEWORK	0.270
ALUMINUM FOIL-CRUMPLED-3 SHEETS PER 1"	0.289-0.311

Table II, conductivities of various types of materials figured in B.t.u.'s per hour per sq. ft. per degree Fahrenheit for 1 in. thickness. Most of the figures on aluminum were obtained from the results of tests made for manufacturers by Prof. Gordon B. Wilkes at M. I. T.



No. 1

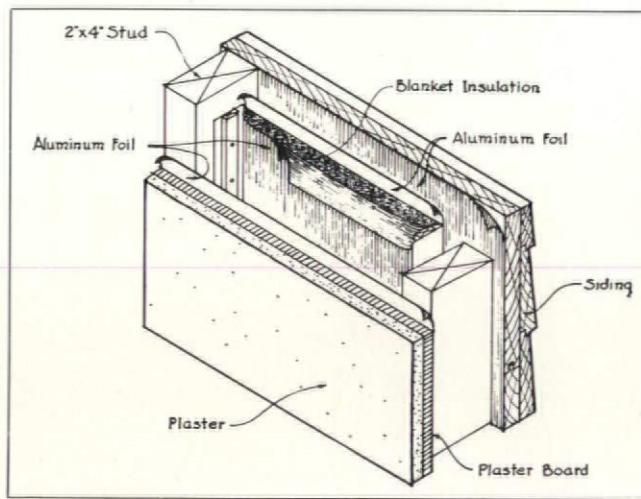
No. 2



No. 3

No. 4

The application of aluminum for building insulation takes a number of forms, but always with an air space next to the aluminum. There is a difference of opinion on the relative value of using unattached crumpled aluminum foil and foil backed up with some other material, on bases of efficiency and practicality. The usual methods of installation are shown diagrammatically. No. 1 is aluminum foil on paper applied to sheathing; No. 2 is foil on plaster board and insulation board; No. 3, crumpled aluminum foil suspended between studs; No. 4, foil nailed between studs and applied to steel fabric lath and sheathing; No. 5, foil applied to blanket insulation and to plaster board and sheathing



No. 5

crumpling; it is unrolled and crumpled on the job, cut to length and tacked in place. The foil is normally reduced about 10 per cent in length by crumpling; care must be taken not to crumple it too much, since this reduces its efficiency. Tests at the German Government Material Testing Office, Berlin, indicate that when applied horizontally, it will not flatten out, even under extreme vibration.<sup>5</sup>

Another simple, easily applied type of aluminum foil insulation for wood frame buildings is in the form of Kraft paper coated on both sides with aluminum foil. Rolls are 17 in. wide with the edges scored so that they may be easily turned up and tacked to the studs, joists or rafters. This method is not practical for dividing the air space more than once or twice in the case of 2 x 4 in. studding, and should be accompanied by foil insulation on the other boundaries of the two air spaces thus formed.

**Application.** Aluminum foil on building paper, plaster board and wire lath, is commercially available for use in wood frame construction. In using these materials, it must be remembered that aluminum foil has no insulating value except when adjoining an air space. Although it may be superior to paper as a windstop (see below) foil on building paper applied outside the sheathing would seem to be wasted as far as heat insulation is concerned, but it is claimed that when used under shingles or siding there is sufficient air space to make it effective as an insulator. Applied to the inside of sheathing or lath, a single layer of foil has approximately the same insulating value as  $\frac{1}{2}$  in. of average insulating board. Aluminum foil may well be applied to other insulation materials; to insulation board, for example, when it is used instead of sheathing, or to both sides of blanket insulation. The foil not only increases the over-all thermal resistance of the wall, but in addition protects the insulation to some extent from moisture, decay and fire.<sup>5</sup> (See Table III.) It should be remembered that all uses of aluminum foil applied to another material employ only half of the potential reflective power of the aluminum.

Infiltration of air through walls of ordinary wood or masonry construction is one of the greatest sources of heat loss. Ordinary insulation materials have practically no windstop value. Infiltration through  $1\frac{1}{2}$  in. cork board is 423 cu. ft./hr./sq. ft. at 40 lbs. per sq. ft., through the average  $\frac{1}{2}$  in. insulation board 174, through Kraft paper, aluminum foil, cellophane, and asphalt 0.00. Aluminum foil applied to the inside of sheathing or lath may have additional value as a windstop, particularly if a poor grade of building paper is used, or if poorly applied.<sup>1</sup>

**Advantages.** As indicated above, properly designed aluminum foil insulation is comparable in efficiency to the best insulating materials known; it is also comparable in cost. Its most striking advantage is its extremely low weight as compared with

other good insulators. A pound of foil (.0003 in. thick) covers 225 sq. ft. The weight of the rigid separator type of insulation will depend upon the density and quantity of the separators. The weight of crumpled foil, three layers per inch, is 3 oz. per cu. ft. This has been the decisive factor in its increasing use for transportation insulation, or wherever weight is an important consideration. A merchant marine vessel is reported to have replaced 380 tons of cork and magnesia insulation with four tons of aluminum foil; the average saving in a refrigerator car is 1-2 tons.<sup>6</sup> It is efficient at temperatures up to the melting point of the metal, 1,200°F. This fact, along with the easy adaptability of the crumpled form to irregular shapes, has led to its use for insulating steam pipes, milk tanks, naval gun turrets, Diesel engine exhausts, etc.

**Disadvantages.** Some authorities have questioned the permanence of the reflective surface upon which the insulating qualities of aluminum depend. Since no figures from a thoroughly disinterested source are available, and the material is still so new, it is difficult to say positively that this charge is untrue. However, several engineers of high standing in their profession have stated that the loss of reflectivity is so slight as to be negligible, amounting to not more than 2 or 3 per cent under normal conditions. When aluminum oxidizes, a transparent film is formed which prevents further oxidation. Under severely corrosive conditions a thin coat of lacquer can be applied to the foil; Mason<sup>2</sup> tested such lacquered foil and found only a very slight increase in conductivity. (See Table II.)

A disadvantage which is apparently inherent in the material due to its extreme thinness is difficulty in handling. To avoid tearing considerable care is required to crumple, stretch out, cut, and nail in place large sheets of foil. This difficulty is, of course, overcome when the foil is backed by Kraft paper or a stronger material. (See Table II.)

**Other Forms.** Aluminum paint has an emissivity of 30-40 per cent and consequently has insulating value. It can be used in any of the places where aluminum foil is applied to some other material, that is, to cover any or all of the boundaries of the air spaces in a hollow wall. In addition it has certain of the protective advantages of a paint and can be applied as an exterior and interior wall finish. (See Table III.) Molten aluminum may be sprayed on in much the same manner. This results in a thin coat of solid aluminum, but unpolished. If a high polish is desired, it is cheaper to use sheet or foil. Emissivity is about the same as paint or less; conductivity somewhat higher, since it is thicker. This material can be applied to textiles and Venetian blinds, which might reduce the great radiation loss at windows. It has been sprayed on to terra cotta before baking; the metal is fused during the baking and emerges with a considerably higher polish.



Applying paper-backed aluminum foil before nailing the sheathing. With foil on both sides and air space facing each, this type is reported to be an effective method of foil insulation



Cutting and crumpling foil preparatory to installing it in the space between the studs. No skill, but care, is required for installations of this type

Thin sheets (No. 24 gauge or 0.025 in.) of aluminum applied to plywood and to standard insulation boards are commercially available. The "polished" finish has an emissivity of 0.20-0.25; higher polishes are available at an extra charge. These materials are practical as insulation only when the bright aluminum surface is to be exposed as the finished wall. The metal in this case must be thick enough to protect the core from contusion, weather and fire. To the extent that the metal is used structurally it is less efficient as an insulator, because of its high conductivity.

<sup>1</sup> American Society of Refrigerating Engineers, Refrigerating Data Book, 1932/33.

<sup>2</sup> Mason, Ralph B., *Industrial and Engineering Chemistry*, March, 1933, page 245.

<sup>3</sup> Gregg, J. L., *Product Engineering*, May, 1932.

<sup>4</sup> American Society of Heating and Ventilating Engineers' Guide, 1933, Chapter III.

<sup>5</sup> *Chemical Age* (London), August 27, 1932 — "Aluminum as Heat Insulation Material" — contains quotations from tests at the National Physics Research Laboratory, London, and the German Government Material Testing Office, Berlin.

<sup>6</sup> Breitung, Max, *Refrigerating Engineer*, July, 1931, and January, 1932.

<sup>7</sup> Svenson, E. B., *American Builder* — September, 1932.

Figures used in Tables I, II, and III were obtained from the following sources: Table I, References 1, 2, 3, 5, 6; Table II, References 1, 2, 3, 4, 5, and tests by Prof. Gordon B. Wilkes, M. I. T.; Table III, References 4 and 7.



Applying paper-backed foil between ceiling joists by the use of simple batten strips. The added strength of the paper backing facilitates installation

# COORDINATING SLUM CLEARANCE

## A PLAN OF ACTION ADOPTED BY NEW YORK

THE slums of New York are as famous and infamous as they are broad in extent and scattered in location. This condition has been known for years and sincere but sporadic attempts have been made to better conditions. Laws have been passed in the interests of better housing forbidding the worst types of building plans and construction, but "old law," dark, unfit tenements remain occupied. The State Board of Housing has raised standards of the relatively small amount of new housing construction. Various groups have made studies and suggestions; social workers and philanthropists, bankers and real estate interests alike have reached conclusions that "something must be done."

Then the Public Works Administration's Division of Housing seemed to provide the way out, the way to clear slums and at the same time provide work for the idle building trades. But most schemes presented seemed to the Housing Division to be impracticable because of the high cost of land or the high population per acre involved.

While conscientious Administrator Ickes addressed himself to the high task of sorting out the applications for governmental spending so that they might be honestly acted upon and Federal interests protected by the "reasonable security" which the act called for, time was slipping by. It took time for the Housing Division to find out that too few projects meeting the requirements were available, from private sources and limited dividend corporations, to be effective in reemployment.

Energetic Relief Administrator Hopkins, struggling with the herculean task of reemployment, refused longer to keep willing men on doles — demanded that a living wage be paid for useful work done. Administrator Hopkins became also Civil Works Administrator with \$400,000,000 transferred from the conscientious Public Works Administrator's waning fund; proceeded to set up his payrolls; assigned, among others, men for research in housing and land economics to prepare the way for building.

The recently announced policy of the Housing Division to engage in slum clearance and housing projects on its own initiative through its newly created P. W. Emergency Housing Corporation, also gave new impetus to the work of the many housing organizations in every large city — and New York was no exception. To determine what is to be done, and where, it was obvious (though generally forgotten) that the first task was to correlate the various active existing agencies which have the same objective, and to get them all working together. The possibility of tying in the workers of the Civil Works Administration made it imperative that a coordinated group cooperate with the Government authorities and direct the studies.

President Kohn of the Federal Emergency Housing Corporation conferred promptly with all New York's interested parties — governmental, social, administrative, real estate, technical — and pointed out the necessity of organized cooperation.

Result: the creation of the Slum Clearance Committee of New York.\* Thus the actions of the PWA, the new city administration, the State Board of Housing, the National Conference on Housing, and many other potent organizations, will be coordinated.

Losing no time, the Organizing Committee set to work, opened offices at 101 Park Avenue, New York, determined the fourfold simultaneous program:

1. The selection of possible sites; using all existing surveys, including the New York Building Congress "Survey of Surveys" and the exhaustive study of its Committee on Land Utilization.

2. Determining, through direct and open canvass, possible purchase prices of land in the numerous chosen sites, and the attitude of the localities' realty and mortgage owners toward cooperating.

3. Speeding the necessary State legislation to permit the formation of Housing Authorities, the public utility corporations with which the PWEHC can operate on a contractual basis irrespective of the city's finances.

4. Determining the best type of housing for each site which proved available at reasonable cost.

\* Committee Members:

**R. H. Shreve**, Director, Shreve, Lamb & Harmon, architects for the Empire State Building and other buildings.

**R. G. Wagenet**, Manager. For years secretary of New York's potent Building Congress.

**Alexander M. Bing**, realtor and builder. Retired from Bing & Bing before War. Now president, City Housing Corp., builders of Radburn, N. J., and Sunnyside, L. I.

**James Cummings Bonbright**, Professor of Finance at Columbia University. Money, Berle colleague; Roosevelt supporter, authority on public utilities, which he has criticized for "irrational consolidation, over-capitalization and uncontrolled service charges."

**Richard S. Childs**, President, City Club, interested in city affairs ["generally considered America's foremost authority on city manager form of government" (New York Times)] and in housing.

**Morris Leopold Ernst**, lawyer, Greenbaum, Wolff & Ernst; author ("America's Primer"); Socialist in 1932; Roosevelt supporter.

**Darwin Rush James**, president, East River Savings Bank, Brooklyn. Chairman, New York State Housing Board.

**Orrin C. Lester**, vice president, Bowery Savings Bank, Chairman, Board of Directors, East Side Chamber of Commerce, New York.

**George McAneny**, ex-Borough President (Manhattan), president, Board of Aldermen, Transit Commissioner, Sanitation Commissioner, Controller of New York City. "Independent Democrat." President Regional Plan Association of New York — opposed building on Chrystie-Forsythe area. Received Beaux Arts medal from France in 1915, and in 1931 was made Chevalier of Legion of Honor for recognition of his services to architecture and city planning.

**Joseph D. McGoldrick**, professor in Department of Public Law at Columbia University. Student of municipal affairs, especially finances. Deputy Controller, New York.

**Rev. Edward Roberts Moore**, Catholic clergyman, New York City. Author, "The Case Against Birth Control," sociologist, member of many sociological societies.

**Langdon W. Post**, Tenement House Commissioner, New York. Ex-Assistant (to Harry Hopkins) Federal Emergency Relief Administrator. Defeated Fusion candidate for Borough President, Manhattan. Chairman, Continental Committee on Technocracy (February, 1933).

**Ira S. Robbins**, lawyer, Liebman, Blumenthal & Levy. Chairman, Housing Committee, United Neighborhood Houses, Inc.

**Mrs. Mary Kingsbury Simkhovitch**, social worker. Director of "Greenwich House." President, National Public Housing Conference.

**Carl S. Stern**, counsel for New York State Housing Board.

THE  
ARCHITECTURAL  
FORUM  
▼  
BUILDING MONEY

A monthly section devoted to reporting  
the news and activities of building finance,  
real estate, management and construction

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## A REAL ESTATE INVENTORY

**will be taken by the CWA. The PWA's housing policy is officially defined.**

IMPORTANT news developments in and about the Public Works Administration last month included:

¶ Administrator Harold L. Ickes, pre-occupied, slipped on the ice in front of his home, went to Naval Hospital with a fractured rib.

¶ Detroit, chosen to be the No. 1 Housing Demonstration City, was not yet assured of housing.

¶ Practically all of the PWA's \$3,300,000,000 was earmarked. Washington thought that another billion dollars for Public Works is certain, another three billion dollars entirely plausible. Senators from the West however began to talk in eleven figures.

¶ The CWA decided to spend \$3,500,000 on a nation-wide real estate inventory-survey, to determine the need for housing. In New York, work on such a survey had already been commenced by a quasi-public committee headed by Architect Richmond Harold Shreve (see page 72).

¶ Home-builders, headed by Cleveland's Don A. Loftus ("Homes Permanesque"), rallied in Washington to demand loans for residences and to protest against "un-American" housing (see page 86).

¶ A construction unit of the NRA estimated an immediate market for 810,000 family units.

¶ To Dayton for a convention went many a subsistence homestead enthusiast (see page 78).

¶ New Jersey passed a law creating a State Housing Authority. Maximum rentals: \$10 in first class cities, \$8 elsewhere.

\*\*\*

The eyes of all housers were on Detroit last month. But no happy sight of slums being cleared, of housing being created, was flashed to their retinas. All was not moving smoothly in the city chosen to be the No. 1 Demonstration of how the Federal Housing Corp. can smash through the myriad obstacles which have thus far rendered a total failure of the Public Works Administration's efforts to aid housing backed by private limited dividend corporations.

In Detroit the preliminary moves went smoothly. The Acting Mayor, a booster for slum clearance, appointed a representative group of citizens to form a Housing Commission (*The Architectural Forum, December*). The Housing Commission employed 96 architects with county CWA funds, drew up some plans and rental schedules and went forth to acquire options.

To land-owning citizens, the Housing Commission wrote: "Inasmuch as the assessed valuation of property within the proposed rehousing district is admittedly high, and in light of the fact that this property could not be sold on the open market for its assessed valuation, the opportunity is presented you of 'cashing in' on your property on the basis of its assessed valuation. Under present conditions this is a liberal and to you highly desirable achievement."

Shown this communication, righteous Secretary Ickes became exceedingly wroth. Cried he: "There will be no 'cashing in' on public works funds in Detroit or any other place. . . . That circular . . . was an invitation to property owners to seek more for their property than the commission itself believed the property to be worth. There are plenty of other cities in the country that want the funds." He added that Detroit's Housing Commission had neither the funds nor the authority to act in any way for the PWA and was without legal status.

The general impression in Washington was that this reprimand would remain only a reprimand, that the \$3,000,000 tentatively set aside for use in Detroit would be so used if possible. It was thought that the Housing Commission knew what it was about when it tried to option land at assessed prices rather than getting appraisals or taking recent sales as an indication of true value (which Secretary Ickes later suggested), or waiting for condemnation proceedings. Unfortunate however had been the wording of the Commission's letter.

Opposition to Detroit's project began pouring in to Washington and the sudden lack of progress or news was attributed to the PWA's investigation of all the protests. Usually labor cries for work on housing projects, but Acting Mayor John W. Smith of Detroit said that much of the opposition was backed by Frank X. Martel of the local Federation of Labor, no friend of his and no friend of two members of the Housing Commission. Housing engenders more housing and most architects want housing to go ahead, but in Detroit it was also charged that architects were blocking the development. Robert D. Kohn, indignant about the entire situation, said "To my knowledge no protests have been received against the scheme from architects." More confusion was added to the Detroit scene when Municipal employes began to object to the CWA wage scale. Administrator Harry L. Hopkins shouted to newshawks that he was disgusted. "What do they want us to do?"

he asked, "I don't want to discuss it. I intend to do nothing about it. What could I do about it? . . . Down in Cincinnati they tell me the plan is working out beautifully."

Down to Washington to attempt to straighten out his city's muddles went the Acting Mayor. He went to a White House conference with Secretary Ickes who emerged first, saying "We are still ready to proceed with the Detroit projects, but we must have assurances that we will not be required to pay more for the land than it is actually worth."

Leaving the White House, Acting Mayor Smith told newshawks: "The President has a keen understanding of the problems which face Detroit and Michigan. . . . I told the President that the Second Coming could not have been more enthusiastically received than was the CWA."

**Face-about?** Since the Emergency Housing Corp. was formed, there have been no further tentative loans to limited dividend housing corporations. Architects have wondered if this indicated a complete face-about on the part of the PWA. Last month Secretary Ickes clarified the situation by a lengthy statement of housing policy. He stated that most limited dividend housing projects presented so far have advocated use of vacant land and thereby would be in competition with existing facilities and that very few of the applications which involved slum clearance were at sufficiently low rentals.

Below are excerpts from this important statement which defines the aims of the Emergency Housing Corp. as well as the objections to most applications received:

"It continues to be the policy of the Public Works Administration to encourage local study and promotion of low-cost housing. The Public Works Administration will continue to loan on slum clearance operations and low-cost housing projects sponsored by limited dividend corporations. Such corporations have a distinct advantage in certain fields of activity. It is the intention of the Public Works Administration to take the initiative in slum clearance and low-cost housing projects in the interest of unemployment relief and recovery, only in cases where local agencies are unable to do so or unwilling to act promptly. . . .

"The Emergency Housing Corporation was created to speed the work. Experience based upon hundreds of applications clearly indicates that under present conditions local agencies privately financed are rarely prepared to provide the equity required or to engage in the kind of work that would best further the interests of recovery. Only a small number of applicants have proposed plans for slum clearance and very few have presented plans for housing projects which could be self-sustaining at rentals sufficiently low. The large majority propose the use of vacant land in suburban areas and houses of other than comparatively low rental. Except in a few communities, such housing is not needed at this time and might be in direct competition with properties that now provide decent housing facilities.

"In the course of recovery it may be assumed that existing vacancies will disappear and that there will be demand for vacant sites

and for urban and suburban houses. By confining the work of the Emergency Housing Corporation at the present time to the clearance of slums and the production of a like number of low-cost units, limited as to rentals and restricted as to occupancy to the low income groups, the Administration can stimulate one of the basic industries without encroaching upon its field of future opportunity.

"For projects presented by limited dividend corporations the desire to dispose of vacant land and to gain from the design and construction of a project is not sufficient to meet the requirements. Responsibility for initiative, ownership and operation must be vested in a representative group of citizens and the project must be sponsored by local civic bodies. Reasonable evidence must be produced of need for housing of this character and rental price. Since as much as 85 per cent of the total cost may be loaned on preferred projects of this class, the nature of the equity is a matter of first importance. The Government is primarily concerned with the continuing interest and responsibility of the sponsors of the project and of the holders of the equity during the life of any loan. It follows that the equity must be established by the investment of other than the profits derived from the operation. Land, reasonably appraised for the use of low-cost housing, will be considered as equity; a small proportion of the equity may be established by the investment of earned fees. A certain proportion of cash investment will be required. . . .

"Except in unusual cases the aim of the Public Works Administration in all of these municipal housing projects would be to confine the work of unemployment relief to slum clearance. Such a preference does not exclude the use of vacant land where it may be found advantageous to combine the use of vacant land with a clearance operation. . . . Preference likewise will be given to sites closely related to opportunities for employment and to sites well studied in relation to a long term regional plan.

"Low-cost land and low rentals cannot be defined in terms that may be applied generally. These terms have meaning only when used in relation to local family incomes and housing costs in the community. To qualify as 'low-cost' land the price given in the financial setup must be such as to permit of the erection of low structures in accordance with the standards of design already defined and in accordance with what has been said above in respect to low income and low rentals. Low rentals are not possible in high buildings of high construction and operating costs. Sites of higher unit price than will permit low rentals will be looked upon as having been appraised with a view to their being used for some other purpose than housing the low income group.

"To qualify as a low 'rental' project in a given case, the range of rentals proposed must correspond to those currently paid in the community by that family income group for which the project was designed. Municipal housing projects and those presented by housing authorities must show a rent level so far below any commercially produced as not only to put it outside of any possible competition with existing decent housing, but unquestionably meeting the needs of an income group never before accommodated. It must be controlled by a socially minded agency which will limit its use beyond question to those for whom it is built."

**Chamber.** The U. S. Chamber of Commerce recently passed a resolution on housing (*The Architectural Forum*, December). Extract: "It would assist in restoring confidence of investors and in encouraging private construction, if housing projects undertaken directly by the Government, as it now proposes to do, are confined to demonstration projects for the income groups for which new housing has hitherto not been constructed." Wrote Administrator Kohn: "Entirely in accord with our policies." He emphasized that the PWA intends no encroachment on private capital.

**Doctor.** In his articles for the North American Newspaper Alliance last month Dr. O. M. W. Sprague, formerly of the U. S. Treasury Department, wrote of the



Younger Wenzlick

potentialities of housing in recovery. He said: "I suggest as an objective or as a slogan — 'One more room for every family in the United States below the income level of \$2,000.'" His conclusion: "Neither Government building nor Government financial support can provide the basis for an accelerated housing program throughout the country. For that we must rely on private initiative and that initiative will not become effective in the absence of confidence in the future. That confidence in turn requires . . . reasonable assurance regarding the future money of the country."

**NRA Stir.** Across seven of the Denver *Post's* eight columns blazed this big black front-page headline last month:

## NRA BUILDING PROJECT CALLS FOR FOURTEEN BILLION DOLLARS

Stimulation of this head-line was a United Press scoop which many editors recognized was not head-line news. For some months a group of men working for

the National Recovery Administration has been studying the construction industry and the means by which it can be utilized to speed construction. This group, properly called the construction unit of the division of research and planning of the NRA, worked under spectacled Dr. Alexander Sachs, NRA economist. Its chairman was Roy Wenzlick, St. Louis real estate statistician (see below). Its members included Architect Arthur C. Holden, advocate of owner cooperation to rehabilitate slums\*; H. B. Randall, building economist and engineer and member of the Philadelphia chapter of the National Association of Building Owners and Managers; Peter H. Stone, real estate writer; Robinson Newcomb, A. A. Frederick.

How the alert United Press scooped this lengthy report is not known. But members of the NRA felt disturbed that some sections of the press took it so seriously. As the United Press reported, "The construction unit, in preparing its report, was operating as a planning unit. . . . The report was submitted as a study of the possibilities in the construction field and not as a recommendation that the Government embark on such a tremendous undertaking."

Complete details of the survey were being carefully guarded last month both by the NRA and by Secretary Ickes, to whom General Johnson sent the report. The "leak" to United Press however revealed salient features. Important among these was the following suggested use of most of the \$14,000,000,000, with housing given a far greater importance than it has received in the present program:

Housing . . . . .	\$4,532,000,000
Recreation facilities . . .	450,000,000
Health and sanitation . .	136,000,000
Grade crossings, and highways . . . . .	2,400,000,000
Express highways . . . .	1,800,000,000
Railway improvement . . . .	1,500,000,000
Industrial and commercial improvement . . . . .	1,500,000,000

It was estimated that such a program would give direct employment to 4,250,000 men, almost half of whom would be engaged in housing work. The building market was carefully studied. One interesting feature was the report that a minimum of \$650,000,000 can be spent in useful renovation of homes and other buildings, a figure derived after a study of such work in 65 cities. Important to all members of the building industry and the real estate business were two calculations on the existing shortage of dwelling units.

The first of these found the ratio of new residential dwelling units to the number of families during the highest five consecutive years in the 1920's. It was assumed that this ratio could be reasonably initiated and maintained at the present time because of the current shortage. The ratio's rate: 765,000 new dwelling units a year.

\* See "A Plan for Real Estate" by A. C. Holden, *The Architectural Forum*, April, 1933.

The second method found that a quantitative shortage of 810,000 family dwelling units now exists in addition to a qualitative need of well over 1,000,000. These results were determined as follows, present conditions being calculated as of January 1, 1934:

1) Increase in urban families since 1930 .....	595,000
2) Return of families to cities .....	250,000
3) Replacement of abandoned homes .....	520,000
4) Homes burned and not replaced .....	100,000
5) Obsolescence .....	340,000
6) 5 per cent vacancy allowance for new buildings .....	90,000
7) Sub-standard homes in 1929 .....	1,250,000

Total ..... 3,145,000

#### DEDUCTIONS.

1) Oversupply of homes in 1930 .....	525,000
2) Homes built since 1930 .....	560,000
Total deductions .....	1,085,000
Total net need, including replacement of 1929 sub-standard homes .....	2,060,000
Less 1929 sub-standard homes .....	1,250,000
New facilities needed .....	810,000

The report estimated the average cost of each family unit at \$2,200.

**Inventory.** One part of the survey was a definite recommendation that the CWA be given \$3,500,000 to make a national real estate inventory. It was said that the figure \$3,500,000 had been chosen in the belief that it would be sliced down to \$2,000,000. But last month it seemed certain that the full sum would be expended on such a real property inventory.\*

The two main purposes of this real estate survey would be: 1) Immediate reemployment of white collar professional men, such as engineers, architects, accountants and appraisers on a wide scale in 50 or more cities; 2) Laying the basis for a study of the real estate situation which would provide accurate economic forecasts of construction needs.

Definite plans were not completed last month, but the United Press asserted that the survey would be conducted along two lines of inquiry: 1) Listing of vacant homes, apartments and lots; 2) Collection of statistics on families which have doubled up during the depression and which, if reemployment is obtained on a large scale, might return to individual dwellings.

Much of this work will be conducted towards obtaining a comprehensive picture of the needs for low-cost housing. It was pointed out that in cities such as New York, Cleveland, St. Louis and Philadelphia,

\* In St. Louis last month 664 CWA workers started making a card-index description of every piece of property. In St. Louis County (which does not include St. Louis) 58 men were given similar jobs and the total was expected to be boosted to 300. In Milwaukee 150 men were put to work doing this and 110 more were said to be needed. This type of CWA work is to improve the assessors' records, may later be useful for the real estate inventory.

where inventory work is already far advanced, the surveys could rapidly accomplish their whole task of forming an absolutely complete picture of the situation. The inventory will be under the general supervision of Stuart Rice of the Census Bureau.

**Wenzlicks.** It was a safe guess that the chief supporter of the recommendation for a survey of this type was Roy Wenzlick.

In recent years Roy Wenzlick and his brother Delbert S. Wenzlick have gained a nation-wide reputation as real estate statisticians. Their organization, Real Estate Analysts, Inc., a statistical and appraisal concern, grew out of an idea designed some years ago to aid their salesmen.

Delbert Wenzlick, 43, the elder of the two and president of their company, was the first to decide that real estate could be reduced to a scientific business, based on figures and formulae. After having been with his father's firm (Albert Wenzlick Real Estate Co.) since 1910, in 1927 Delbert Wenzlick began collecting St. Louis real estate statistics to aid his salesmen in making an intelligent presentation of sales efforts. In about four years the company had spent \$100,000 in research and statistical work.

Brother Roy Wenzlick, now 39, joined the company in 1928 to handle the statistical work. His previous background included the study of theology at Princeton, work with the Y.M.C.A. employment bureau in St. Louis, and the organization of a research department for a St. Louis daily newspaper.

In 1932 the two brothers organized their research department into the independent Real Estate Analysts, Inc. Brother Roy became vice president in charge of economic research. His elder brother became the publicist of the concern. He traveled from city to city making speeches before gatherings large and small, telling of his concern's work and findings. Many a convention has gaped at his great chart of business conditions, the marriage rate and rentals, and Delbert S. Wenzlick estimates that he has journeyed 300,000 miles in the interest of his company since 1927.

Real Estate Analysts, Inc., has three purposes, according to Brother Delbert. These are: 1) To establish a common language for the real estate business from data and experience; 2) to tap the resources of such material and to reclaim it from old records; 3) to develop a technique and formula so that the material can be applied to individual problems. He emphasizes that his work is cooperative rather than individual.

The company has applied its findings to specific problems in a number of cases. In the spring of 1933 it completed a three months' job of surveying and determining relative rents for seventeen office buildings in Atlanta, of which the 1,700,000 sq. ft. comprise 93 per cent of the rentable office area in that city. The buildings had a total

value of \$20,000,000. In the summer of 1932 Real Estate Analysts appraised 500 pieces of property for the Farm and Home Savings and Loan Association of Missouri. Later they systematized the accounting procedure used by the University of Chicago in connection with its real estate investments. They have just completed a similar job for Baird & Warner, Inc., of Chicago, one of the largest property management concerns in the city.

Delbert Wenzlick has been active nationally in both the National Association of Real Estate Boards and the National Association of Building Owners and Managers. His efforts were largely responsible for the associations' establishing standardized methods of recording operating experience and a uniform, decimal classification system for income and expense. He was in charge of a national committee for standardizing procedure in making city occupancy surveys. Three such surveys were made in St. Louis by his firm, and Milwaukee's report on rentals which was published last month (see page 79), used the Wenzlick system. Recently Delbert Wenzlick was in charge of the compilation of information by the NAREB for code purposes. He was formerly chairman of the NAREB's Property Management Division and reorganized it into the Institute of Real Estate Management.

Brother Roy Wenzlick has few interests outside of the study of economics and statistics. In certain moods he may fish a volume of Kipling from his desk and read lengthy passages, but he prefers to discourse on the writings of Professors Warren, Pearson and Fisher. He is the editor of his firm's monthly paper, the *Real Estate Analyst*, which deals with St. Louis real estate and construction conditions and trends and national real estate problems and was started in March, 1932. For the past five months he has edited this paper from Washington, where he has been economic adviser to Malcolm Muir, NRA divisional administrator in charge of real estate and construction codes.

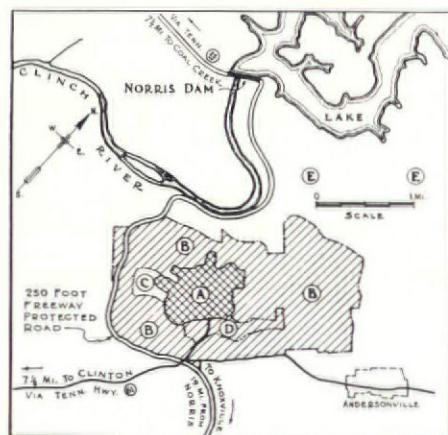
In St. Louis the Brothers Wenzlick have not gained the attention they have received elsewhere. The Albert Wenzlick Real Estate Co. handled a large volume of small home business but was never active in large scale developments or commercial deals. Some old, conservative St. Louis realtors think of the Wenzlicks as pure theorists. But most important real estate men in the land last month welcomed the idea of a national inventory, hoped it would be conducted upon the intelligent lines which have been used by the Wenzlicks.

**Allotments.** Big non-Federal allotments in December included: \$7,000,000 to Louisiana for a Mississippi rail-highway bridge; \$4,000,000 for tubercular units in New York's Bellevue Hospital; \$3,750,000 for new buildings and repairs of various Georgia colleges; \$449,000 for city hall buildings, Columbus, Ohio.

## THE TVA'S TOWN OF NORRIS

will soon be built. No run-down outskirts will ever mar it; nor will through traffic disturb it.

HALF a hundred Knoxville Realtors last month made an 18-mile "Booster Trip" to the Norris Dam site. They made the junket because they "wanted to absorb some encouragement and enthusiasm from a knowledge of the activities going on at Knoxville's door." Much of the Tennessee Valley Authority's payroll of \$185,000 a month (it will of course increase steadily) is being spent in Knoxville; most of the TVA's rent bill for office space goes to Knoxville landlords. But one thing the realtors knew they



## Town Plan

A — the town itself; B — protective belt of woods, pastures and farms; C — construction unit; D — demonstration farm; E — town forest.

would not see at the dam site was an opportunity for a real estate speculation.

From the first the TVA has been able to prevent any speculation from beclouding its operations — speculation of the type that has mulcted thousands of investors in lots which are nothing more than idle farmland and will probably remain idle farmland. Announcing at the start that it would buy all the land within three miles of the dam, the TVA warned that it "will not recognize speculative values added during this preliminary period." Chairman Arthur Morgan added that "if people buy this real estate, three-fourths of them may be stung."

What the Knoxville Realtors did see, in addition to some mammoth steamshovels and engineering construction, was the commencement of a model town which is a model of what some of the best town planners and architects in the U. S. think a town should be like and are able to translate their thoughts into plans without wondering what the mortgagemen will

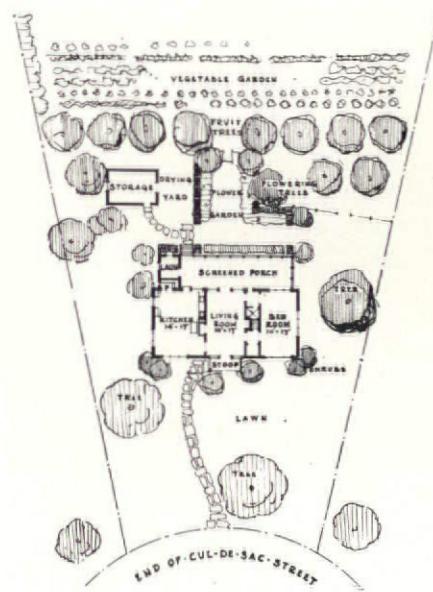
think of it or what a sales force will be able to do with it.

Last month *The Architectural Forum* published a sketch of the simple, economical type of home which will house the five or six thousand people who will eventually live in the made town of Norris. Through the cooperation of the TVA this month further notes can be appended.

The houses of Norris will be rented, not sold. Their rentals will be based primarily upon the net costs of the houses themselves rather than upon the cost of the development as a whole. The cost of the development is offset to a great extent by the fact that there will be no temporary construction camp and, probably, considerable employment of CWA workers in carrying out landscaping and other features of the new town. The occupancy of houses of various sizes will be allotted on the basis of individual requirements. Priority will be given to those employees whose work justifies or requires residence in Norris.

One factor which will boost the cost of the houses is that their construction costs are based on NRA labor rates varying from 45 cents to \$1 an hour, with a few trades higher. This will also be true of most of the materials and supplies which are going into the houses. On the other hand the TVA has gone on the assumption that the permanent inhabitants of Norris will be on an income basis equal to, if not considerably above, that of the present. It is assumed that the incomes of the renters will equal the wages of the workers who build the homes.

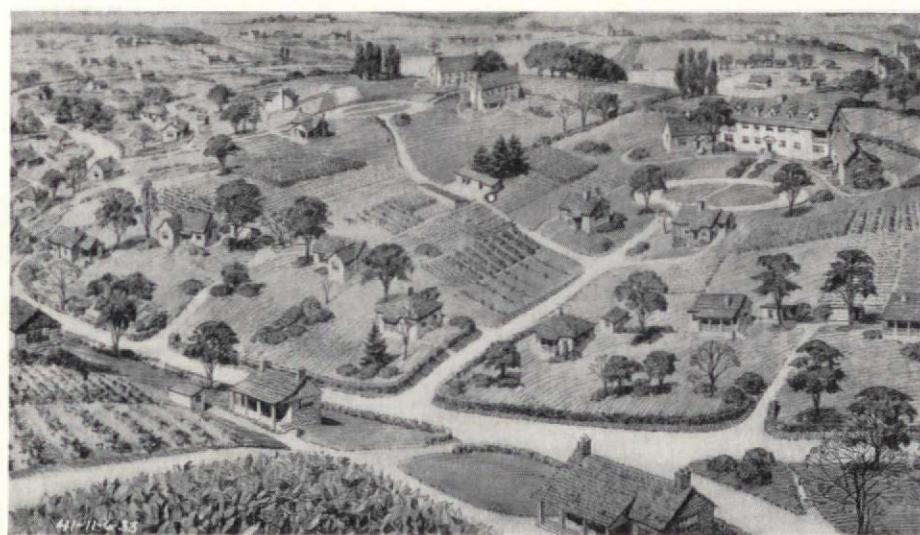
Advancing costs make accurate predetermination of price impossible. It is felt certain, however, that \$2,100 will cover the cost of labor and materials for a 3-room house with bath, screened porches, laundry,



Typical third-acre lot

*The narrow frontage tends to reduce the cost of public improvements; the depth provides better garden and play space.*

usable attic space, fully equipped with electrified range, refrigerator, water heater and electric heating units, and a garage and bulk storage space. A house of this type will rent for under \$20 a month. Rentals for the larger houses will probably hit a ceiling of \$45 a month. Tenants will have free use of garden space and the town will of course have all utilities and necessary public buildings. With the same conception of living as seems to be had by the Subsistence Homestead Division of the PWA (see page 78), the TVA plans a 33-hour week for its



Norris, Tenn., showing how the plan was adapted to the land's contour

Norris Dam workers, will send them to school during their leisure hours so they may study farming, poultry raising, gardening, and such trades as carpentry, cabinet-making, blacksmithing and electricity. The individual homes may be supplemented by a few apartment houses and a boarding house for bachelors.

It is not expected that Norris will ever grow or expand, in fact definite measures have been taken to limit it. The population will be sufficient to house the permanent staff engaged in operation of the Dam and its power plants and other machinery, in reforestation and erosion control and in the management of adjacent TVA properties. The community will also serve some workers in small industries and craft-shops. But it will remain a community.

Next to Norris will run the great new Cincinnati-Knoxville Highway. This scenic road will be popular with tourists (whose numbers are already reaching new highs in Knoxville) but it will be permanently and completely protected against encroachment. Its 250-foot right-of-way will form one border of Norris and no road will enable through traffic to pass through Norris, bringing in outside influences detrimental to the continuing unity of the community (see plan).

Writing of Norris in *The American City*, Earle S. Draper, director of land planning and housing, TVA, says: "A constant threat to the maintenance of decent standards of buildings and land use in the vicinity of towns, both large and small, is the uncontrolled growth around the outskirts. At Norris, however, this evil has successfully been obviated by surrounding the entire development with a protective zone. To a great extent this consists of steep declivities along river and creek valleys. In addition, this protective belt contains some 2,000 acres of ground, most of which will serve a double purpose; that is, it will also provide space for subsistence farms. . . .

"The natural ruggedness and heavily wooded nature of the site will, from the start, reduce, if not entirely obviate, any feeling of rawness in the buildings and surroundings of the new town. The roadways will be molded into the natural contours of the ground, sweeping into broad curves and resulting in irregular shaped plots of ground, thus imposing a consequent informal but related grouping of the houses. Cul-de-sac or dead-end streets are introduced, wherever practical, to prevent through traffic on residential streets. . . .

"Instead of an expensive sidewalk system, improved paths, independent of roadways in most cases, will lead through the residential blocks, enabling one to reach any desired destination quickly and safely."

The TVA will build other towns. Norris will not serve as an example, rather as a proof that each has to be designed with its own particular problems in mind, and with a determination to avoid ugliness, haphazard growth.

## HOMESTEADERS CONVENE

### in Dayton. And the PWA's Homestead Division gets a corporation.

To Dayton last month journeyed tank Ralph Borsodi, author of *Flight From the City* and an able exponent of self-subsistence who practices his beliefs on a modern farm at Suffern, N. Y. In Dayton he proudly showed off his suit, made from cloth woven in his own loom. And he just as proudly inspected the progress of work on the first homes in Dayton's subsistence homestead unit, an undertaking which he helped get under way (*The Architectural Forum*, July).

Occasion of the Borsodi emergence from his rural life was a gathering of subsistence homesteaders in Dayton under the title of The National Conference on Subsistence Homesteading. The meeting was held under



Homestead, Dayton

Bunting

the auspices of the Unit Committee of the Council of Social Workers of Dayton, puffed up as being the first body to receive Federal homestead money (\$50,000) although the homestead development now under way near Morgantown, West Va. (*The Architectural Forum*, November), is five times as important financially.

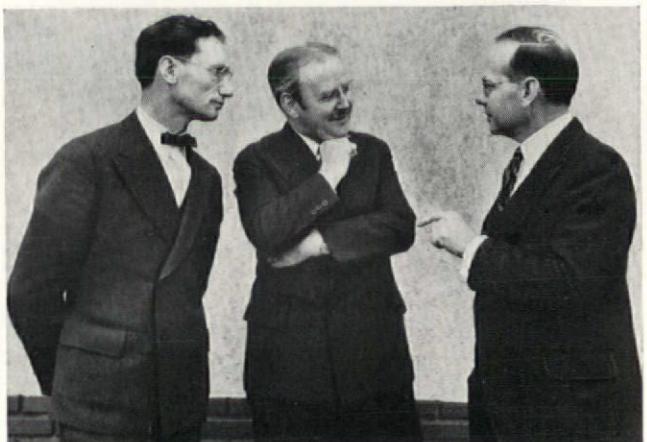
Shortly before the conference convened, the Homestead Division of the PWA announced the formation of The Federal Subsistence Homestead Corp., with a nominal capital of \$10,000. This announcement seemed to indicate that in homesteading, as in housing, the PWA feels that it would not be sufficient to confine its position to that of a conservative buyer of mortgages. The Homestead Corp. plans to own the entire capital stock of the homestead

developments it fosters. These local units will have from 25 to 200 homesteads, for the operation of which they will be responsible. The local groups will select settlers and handle all negotiations with them. The Corporation will advance loans for homes and engineering requirements and, in some cases, for livestock, feed and domestic appliances. Each local directorate will have a corporation representative who will have eight or nine boards to meet with on a regular circuit schedule.

Disappointing to the conference was the absence of Prof. Milburn L. Wilson, Administrator of the Homestead Division and of Publisher Bernard Adolphus Macfadden who considers the present \$25,000,000 appropriation "measly." Chief talker on the Dayton project was busy Social Worker Elizabeth Nutting, who is so enthusiastic about the idea that she too is building a homestead for herself. Other speeches and speakers formed a good cross-section on what homestead boosters talk about when they gather. Included were: Hughina McKay, Professor of Home Economics, Ohio State University, who spoke on *Nutritional Standards*; D. C. Churchill, head of Berea's Churchill Weavers, who spoke on *Spinning and Weaving*; Thelma Beale, Home Management Specialist at Ohio State University, who spoke on *Home Equipment*; and Harold Rugg, Professor of Education at Teachers College, Columbia University, who spoke on *Adult Education*. Community Planner John Nolen of Cambridge discussed this phase of the developments while H. Dwight Smith, University Architect at Ohio State, spoke on the architectural problems, suggested an architect should live in each homestead unit. For recreation, one evening the conference attended "Robinson Crusoe," a marionette drama in three acts upon the theme of "production for use."

♦ In Washington it was indicated last month that the Subsistence Homestead Division may soon experiment with rural reconstruction. The general procedure would be to move farmers who are now hopelessly behind on poor lands. This marginal land would be taken out of production, probably used for forestation.

Three conveners. From left to right they are: Ralph Borsodi, mainspring of the Dayton movement, wearing a suit from his own loom; Professor Harold Rugg of Columbia, much in evidence at the convention; and Lawyer Frank Fritz of the Homestead Division of the PWA.



Bunting

## RENTALS IN MILWAUKEE

have been falling since 1924. What the chart showed the Realtors.

ONE of Milwaukee's wealthiest mortgage lenders had not found an hairpin in his meat loaf when he let forth a mighty "WOW!" one noon last month at a Real Estate Board luncheon in Milwaukee's famed Hotel Schroeder. "Wow," he repeated. "If I had known those facts three or four years back I could have saved myself a couple million dollars." Cause of his excitement was a chart displayed by Secretary Fortney H. Stark of the Milwaukee Real Estate Board which showed in part that:

1) Rents in Milwaukee started to decline not after the depression began but in 1924. Rents were fairly stable from 1893 to 1914; rose slowly to 1918 and rapidly thereafter to a peak in 1923; dropped slowly to 1929, then fell fast.

2) Since 1929, apartment rents have had a proportionately greater fall. They averaged five dollars a month higher than single-family or two-family homes at the peak, but are now only about two dollars a room higher.

3) Two-family dwelling rents, for many years higher than single-family home rents, have declined to the lowest level of any residential property in Milwaukee.

The chart, which the Milwaukee *Journal* called an "eye-opener," was prepared in three months under the direction of Secretary Stark, who employed the technique of Real Estate Analysts, Inc., of St. Louis (see page 76), averaging room rents advertised in Sunday papers.

"This study indicates that there is going to be more sound economics and less ballyhoo in the real estate business from now on," said Secretary Stark. While rents were going down, as the chart shows, thousands of persons were putting their money in new apartment buildings, every-

body confident that the investments would be highly profitable. Most of the large apartment buildings in Milwaukee were built during the last ten years. . . . We believe that similar surveys and study are necessary in the intelligent approach to housing programs now being developed throughout the United States."

## "WORST YET"

is Labor's comment on the revised construction code.

THE copper industry still had no code last month. Neither did the construction industry. Some coppermen were pleased at the possibility there may never be a copper code. But the entire building industry felt differently. It knew there had to be a construction code, that five months' of delays have increased tension and probably retarded much work.

Meetings, demands and concession continued in December. But the differences adjusted continued to be much smaller and of less significance than the differences unadjusted and not likely to be adjusted. Under the general guidance of Donald Richberg, general counsel of the NRA, a special committee was trying last month to iron out conflicting views on the code. This special committee was appointed by General Johnson on November 20 after he had presided over a meeting on the code, a meeting which was generally supposed to have represented the final effort of the Construction League and the Associated General Contractors (supported by the U. S. Chamber of Commerce) to push their code across. Its personnel substantiates the belief that when the final code is written the League will be "out of the saddle." \*

Biggest unsettled factor in the construction code has to do with Labor's demands. Chief of these are:

1) *Representation of the code authority.* General Johnson's office has indicated that this will not be granted.

2) *Minimum wage scales for skilled labor.* The Labor press speaks of a joker in the code which "makes the 40-cent minimum apply only to common labor. In other words, carpenters can be paid only 20



Harris Ewing

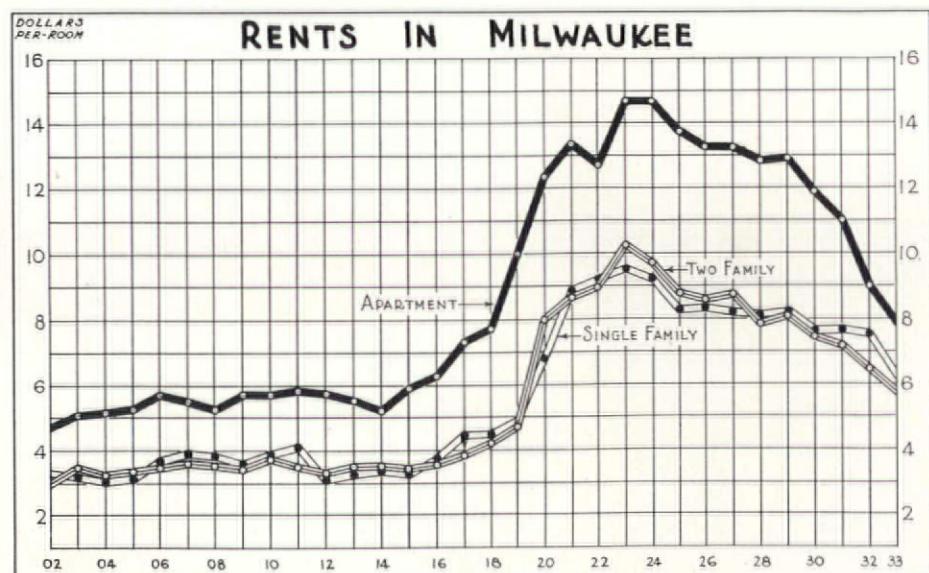
A. F. of L.'s McDonough

cents an hour as is being actually done on District of Columbia school jobs, without violating the code. Donald Richberg, general counsel of the NRA, has said that such schedules may not be included legally in the code, that all the law permits is a specification of a minimum rate for the lowest paid class of labor.

3) *The 30-hour work week.* Labor feels that the 40-hour week has already been won by most building unions, and "won't put a single man back to work." In Washington it is felt that a concession to a 30-hour week is extremely unlikely.

The A. F. of L. also demands two code authorities, one for building construction, one for "open" construction, and representation on a planning board for each. It likewise fears company unions or unorganized groups of workers being set up in opposition to unions. While Counsel Richberg tried in vain to revise the originally proposed code (*The Architectural Forum*, September) and to overcome the deadlock between the A. F. of L. and the Construction League, Labor's William J. McDonough called his work "The worst code yet . . . utterly unacceptable."

\* This committee's personnel: Col. Robert W. Lea and Donald Richberg, representing the NRA; William Green and M. J. McDonough, representing the A. F. of L.; Stephen F. Voorhees and A. E. Horst, representing the Construction League; Oscar Rosenthal and W. P. Carroll, representing the National Association of Builders Exchanges and the National Association of Building Trades Employers; A. C. Tozzer and E. J. Harding, representing the Associated General Contractors; and R. D. Williams, Oscar A. Ream, L. S. Davis and H. R. Cole representing these respective special contracting groups: heating, piping and air conditioning; contracting plasterers; electrical contractors; tile and mantel workers.



© Milwaukee Real Estate Board, (which sells its charts with comment @ \$1).

## DUPLEXES AT \$6 PER ROOM

is the patented solution of housing offered by Tullgren of Milwaukee.

In the minds of most, duplex apartments connote the ultimate in apartment house swank and yearly rentals in five figures.\* Since 1905, when the late Charles A. Platt designed the first duplex apartment house at 131 East 66th Street in New York, the privilege of walking up or downstairs within one's own apartment has been reserved for the rich.

Now are suggested duplexes for \$6 instead of \$150 per room per month,



Tullgren of Milwaukee

duplexes not for corporation directors but for workers; duplexes, in fact, for low cost housing. Their architect-patentee-promoter is Herbert W. Tullgren of Milwaukee.

Duplexing is not only the distinctive feature of Tullgren apartments, it is the backbone of their low cost. Capitalizing on the inherent economies of duplex planning, Architect Tullgren has worked out and patented the Tullgren Plan (U. S. Patent No. 1,896,734) which simply covers the elimination of corridors on alternate floors and the utilization of the corridor space to provide added room space.

Fifteen per cent less in construction cost, 15 per cent more in rentable area, and 20 per cent less in maintenance cost are the plan's claimed advantages. By using prefabricated units (as advocated but not fully expounded by Architect Tullgren) for ex-

\* Sixty per cent of all Manhattan duplex apartments are in cooperatives, and cost from \$35,000 to \$450,000. The top figure was paid by Dr. Preston Pope Satterwhite for a 31-room apartment at 960 Fifth Avenue. National Distiller's Seton Porter paid almost as much for the one Mrs. Graham Fair Vanderbilt had built but never occupied at 960 Park Avenue. Thirty-five thousand dollars is the all-time rental record for a duplex.

terior walls, interior partitions, floors and ceilings, greater savings would be possible. To date, no \$6-per-room apartment building has been built under the Tullgren Plan. But an apartment house has been constructed on the same principles.

In Milwaukee architecture the name of Tullgren is not new. Early in the century Herbert Tullgren moved there from Chicago with his father, who gave up the firm name of Hood & Tullgren for Martin W. Tullgren & Sons. Hotels, schools, apartment houses, theaters, public buildings of their authorship spot Milwaukee streets. The senior Tullgren died in 1922; since then Herbert W. has headed the firm.

Departing from the usual professional course he formed the Tullgren Company which owns and operates three apartment buildings in the city. Two are standard, quality apartment buildings. The third is The Viking (see photograph and plans), first apartment house to be built under the Tullgren Patents.

*Consultation.* Like the securities house which advertises that "These shares may be purchased through your local banker," Architect Tullgren's presentation booklet says that "Tullgren Plan Residence Apartments may be planned by your local architect, with the consultation of Mr. Tullgren." Also, under the headline "INVITE TULLGREN COUNSEL" it says that, "The counsel of Herbert W. Tullgren is available to municipalities and to private interests concerned with housing projects. Mr. Tullgren will consult with housing groups on problems having to do with slum clearance and rehabilitation, site selection, utilization of land and organization of civic or private interests to sponsor housing projects. If desired, Mr. Tullgren will counsel in the operation of studies to determine the extent and nature of the housing need."

Fundamentally, The Viking consists of tiers of two-story rather than single floor units, each apartment having living room, dining room, kitchen and toilet on the lower floor and a private stairway leading to bedrooms and bath on the floor above. The tiers of two-story dwellings are superimposed through the nine floors of the building except that the first is given over to single-story garden apartments.

Owned by the Fylgia Corporation, of which Architect Tullgren is also president, the house has had an occupancy record of 92 per cent since its completion in 1931, is now 100 per cent rented. Other apartments in the city average only 60 per cent occupancy. Its financial statement for a

recent 12-month period, adjusted to reflect 100 per cent occupancy, was:

Land . . . . .	\$35,000.00
Apartment building . . . . .	178,165.76
Machinery and equipment . . . . .	17,718.11
	\$230,883.87

## OPERATING STATEMENT

Gross Income:

Rentals . . . . .	\$27,288.57
(Thirty-one apartments average monthly rental per apartment \$73.35)	

Operating Expenses:

Advertising . . . . .	\$106.80
Coal . . . . .	1,310.30
Commissions . . . . .	802.33
Decorating . . . . .	470.96
Electric light and power . . . . .	636.06
Insurance . . . . .	300.62
Legal and professional . . . . .	105.00
Miscellaneous expense . . . . .	2.00
Maintenance and repairs . . . . .	715.17
Salaries . . . . .	1,025.00
Taxes . . . . .	4,184.75
Telephone and telegraph . . . . .	35.13
Water . . . . .	185.44

Total operating expenses . . . . . \$9,879.56

Net operating profit before depreciation . . . . . \$17,409.01

When low cost housing pushed out and out speculative building off the lot as a field for building promotion, Mr. Tullgren worked over his superimposed tier plan to determine whether he could build his houses at a price low enough to give Milwaukeeans \$6 rooms.

He studied figures of eleven typical projects in the U. S. and abroad, found that the average cost per room was \$1,076.47, the average rental \$9.72, on land costing from \$.38 to \$8.48 per sq. ft. Using pre-



Duplexity

Photoart

fabrication methods, Mr. Tullgren estimated he could pull the cost of his projects down to \$580 a room, \$17 lower than the cheapest of the eleven studied projects, and rent his apartments for \$6 per room. He standardized his plan on a 5-room unit, grouped them in patented fashion, with a corridor running through the center. On 32 cent land, which is plentiful in Milwaukee, he set up on paper a seven-building development as follows:

Seven four-story buildings at

\$82,500 per building . . . . .

Land (206,965 sq. ft.) . . . . .

Fees . . . . .

Total . . . . .

Mortgage (66 2/3 per cent) . . . . .

Land (second mortgage) . . . . .

Equity . . . . .

#### OPERATING STATEMENT

Income . . . . .

(224 five-room apartments at \$30 per month)

Expense

(Upkeep, expense and vacancies

(25 per cent of gross income.. .

Taxes . . . . .

Interest, first mortgage . . . . .

Interest, second mortgage . . . . .

New operating profit, available for

amortization, depreciation and

profit . . . . .

\$24,800

Anticipated financing through either local or Federal agencies may see the project under construction within the next few months. This would probably give the final answer as to whether duplex planning is economical for low cost housing.

\$577,500

67,200

5,300

\$650,000

\$433,000

67,200

149,800

\$650,000

\$80,640

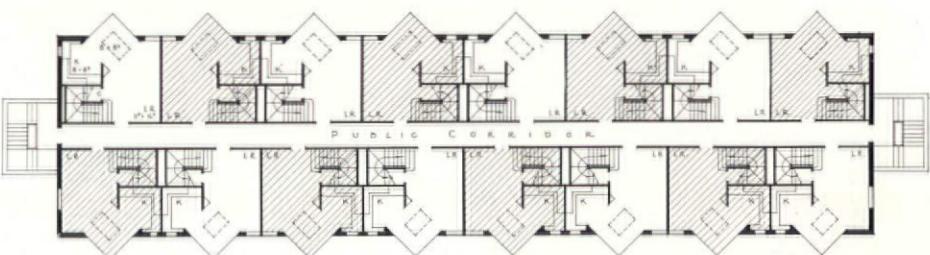
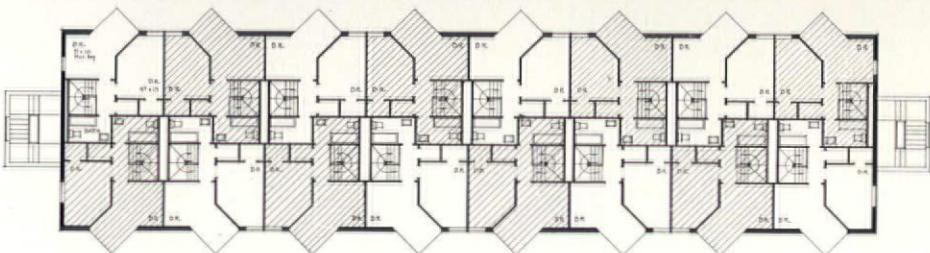
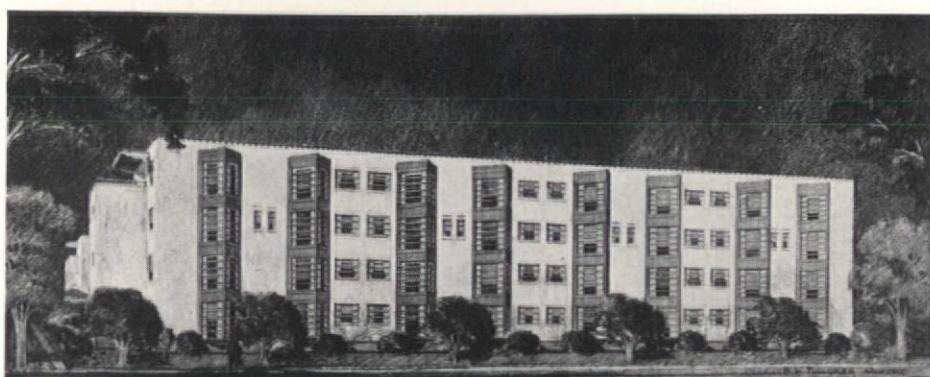
\$20,160

15,000

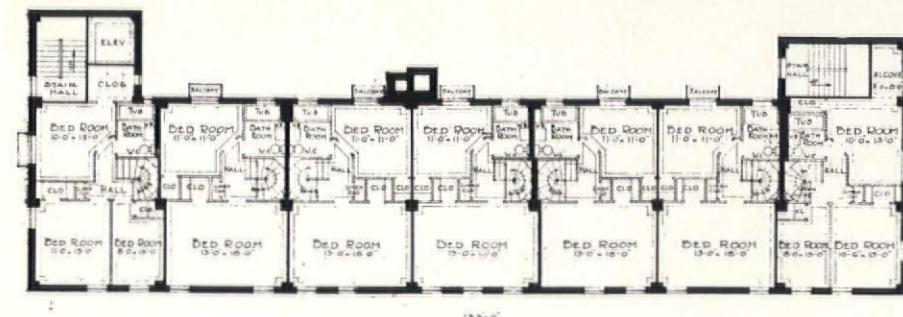
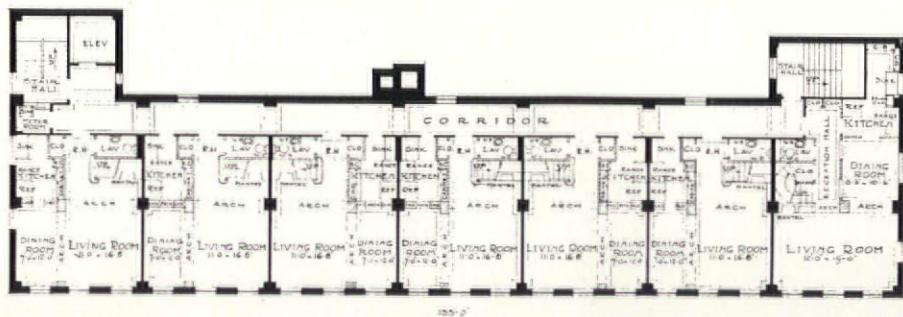
17,320

3,360

\$55,840



What architect-patentee-promoter Tullgren hopes will be the final outcome of the Tullgren plan is shown above: perspective and typical floor plans of a unit in his seven-building development, living rooms, dining rooms, kitchens all on one floor with corridor down the center, and bedrooms, baths concentrated on floor above. What has been the result of the Tullgren plan so far is shown below photograph and typical floor plans of the duplexed, 100 per cent rented Viking apartment.



## NEW USES

### for old banks; some recent transformations.

WHEN the Fifth Avenue quarters of the notorious Harriman National Bank were sold at auction in New York last month some architect was sure to get a job. And far too good are the locations of most vacated banks to warrant inaction.

No bank was ever easily rented space just relinquished by another's failure, stigmatized as that space usually is because people are prone to identify a bank by its location alone. In this respect, dark banking rooms are unlike dark theaters, two kinds of specially improved property which otherwise present very much the same sort of problem.

The best answer is that which entails turning old bric-a-brac to good use, and

that is exactly what Architect B. Albert Comm did when he converted the old quarters of the Community State Bank at Roosevelt Road and Central Park Avenue in Chicago into a mortuary. Utilizing many of the features of the old bank, Architect Comm created a rich and dignified chapel and the cost of the alteration was \$10,000.

The main room, which has a marble floor, is two stories high, 45 ft. wide and 65 ft. deep, and there is a balcony. The old counters and cages were removed and the marble facing used as wainscoting on the walls. The old offices, with their mahogany woodwork, were turned into luxurious reception rooms. New stairways were built to the balcony, auxiliary mourning rooms provided, an elevator, a mechanical ventilation system and new toilets installed.

The exterior of the Chicago undertaking establishment, as well as evidences of how other dark banks are being rented, are pictured herewith:



Fort Dearborn Photo

*It would have been costly to have removed the lettering on the parapet of this bank building, part of which Chicago's Architect B. Albert Comm remodeled into a funeral chapel for Weinstein Brothers. A 1931 merger took the bank out of the building and last summer Architect Comm induced the morticians to buy the building.*



Hoffman

*This, as is plain to see, is the Bank Café. Inside, Bartender Devine dispenses in surroundings sombre. Few changes were made except for the removal of old fixtures and old lettering.*



Acme

*Retail Liquor Store 1-329, New York City, now occupies a former Madison Ave. branch of the National Bank of Commerce, which was merged with the Guaranty Trust in 1929. Excerpts from a newspaper report of its first day of business: "The great bronze doors swung open at 1 P.M. . . At least 50 per cent of the customers commented on a bank with liquid assets."*



Acme

*This was once the banking house of Charles Gates Dawes; the low door in the rear led to his private office. The panels surrounding the room depict the history of Chicago, but not such recent history as the Central Republic's \$90,000,000 R.F.C. boost.*



Hoffman

*This former Bank of U. S. branch is about to become a food market. The Rebus Corp., which is in the hands of the State of N. Y., has many a banking room to let. Spade Markets, Inc., took this one in the Bronx, will sublet to others as the sign says.*

## TICKER TALK

### One and All:

There was more assurance last month that "dollars to doughnuts" was not an even bet after all. Inflation talk grew quieter and quieter and the wits stopped talking of a merger between American Bank Note and Adolph Gobel, the frankfurter-bologna company. Government bonds steadied and the thoughts of statisticians wandered back to earnings and the question of how tax free big earnings will be, if when and as.

Chainstore sales for November were amazingly good. Sales in the South reflected the tremendous influence of the arrival of production-restriction checks, which same were flowing westward by the middle of December. Building material shares were stimulated by the NRA's estimate of a housing shortage of 810,000 and the chances that something may be done about it. Equipment stocks were strong on the PWA's big loans to railroads. The railroad shares were better on the continuance of fair car loadings and the information that the Central is arranging to meet its 1934 maturities one way or another. Resumed dividends and increased dividends and extra dividends instilled a greater degree of confidence in our capitalistic system than has been felt these many months.

As a specific stimulus for the market, repeal did not take. The shares in liquor and allied companies seemed to have discounted most things that are happening. In the companies themselves the uproar was far greater than even the uproar in Macy's the first day of repeal when many tried to reach the liquor store but few did. In National Distillers there was talk of a complete personnel shakeup, to include handsome Seton Porter who knew how to fashion a liquor trust and sell medicinal whisky but was said to be somewhat bewildered upon learning what the liquor business really is. American companies were said to be bidding for the big Canadian inventory-loaded concerns. If that was said to aid Canadian liquor shares, it did not work. Prospects of price-cutting and more quality-cutting befuddled the earnings outlook in this group.

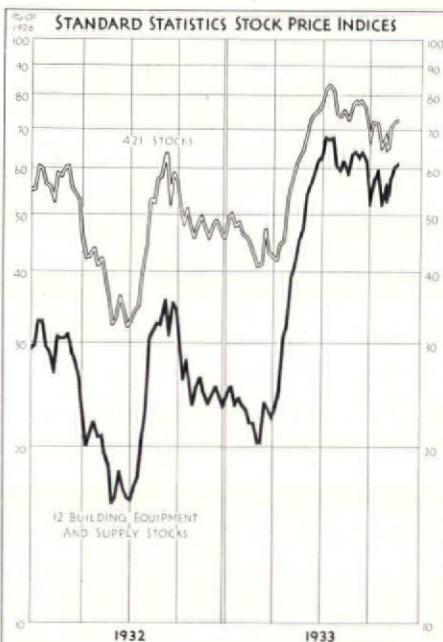
They had a lot of fun with Mr. Roosevelt at the Gridiron Dinner in Washington. He was a better subject than Mr. Hoover. Mr. Hoover was so serious. Mr. Roosevelt has a sense of the ridiculous as savage as the newspaper boys. Professor Warren, enthroned as King Midas with the power to turn every thing he touched to paper, must have delighted Professor Sprague. Everybody anybody ever heard of was there. One newsman remarked that if the roof had collapsed we would all have to return to bows and arrows. Best skit was dinner down on the farm in 1951 with Paw in white tie and Maw decolleté, a butler serving and the poor city cousin enjoying a porterhouse steak which would have cost him \$8 a pound. The poor city cousin was loud in his demands for urban relief. A few acres of wheat, a couple of cows, three hogs kept the establishment going. The \$15,000 income came from what Mr. Peek paid them for the things they did not raise. But poor Mr. Peek didn't

relish that fun-making very much. His adroit enemy Mr. Tugwell had just maneuvered him out of the AAA.

Speaking of urban relief, the most genuine self-liquidating project is claimed by the village of Bar Harbor. The elders came home with the swag to build a skating rink which will be used as a wading pool in summer.

Manhattan vaults are so full of silver that speculators and hoarders are having a tough time finding room to store the white metal. It is estimated that more than 125,000,000 ounces of silver are now in storage. The little fellows don't bother to rent safe deposit boxes. They hide the 1,000-oz. bars in the coal bin, in the attic, bury it in the backyard. One man took two bars and stowed them in the icebox. Some of the big fellows are giving as Christmas presents two bars to be used as book ends.

But one of the loudest silver prophets recanted last month — none other than Srinivas Ram Wagel, Indian economist who used to work for a silver broker but is now in business for himself as Wagel & Associates, Economic



and Financial Counsel. In an elaborate brochure he repudiated his support of the silver interests, terming the white metal "a menace and a racket." Born of a high caste family, Srinivas Ram Wagel was graduated from the University of Madras, having majored in chemistry. His attitude toward the British made it expedient to flee to China in 1906. There he became a money broker and financial editor of the *North China Daily News* in Shanghai. His astute proselytizing on silver even seeped into the stuffy pages of the *London Times*. His cordial dislike of the British forced him to leave China in the first year of the War, and he emigrated to the U. S. For anti-British activity he was indicted in 1918 but the charges were mysteriously quashed. Brilliantly educated, a facile writer, he has spent his recent years in behalf of the remonetization of silver. There were reports that the small smart Indian was close to Roosevelt while the New Deal was being written last year.

Another able foreigner who appeared on the Wall Street scene last month was Axel Leonard Wenner-Gren, since the death of Ivar Kreuger, Sweden's No. 1 industrialist. It

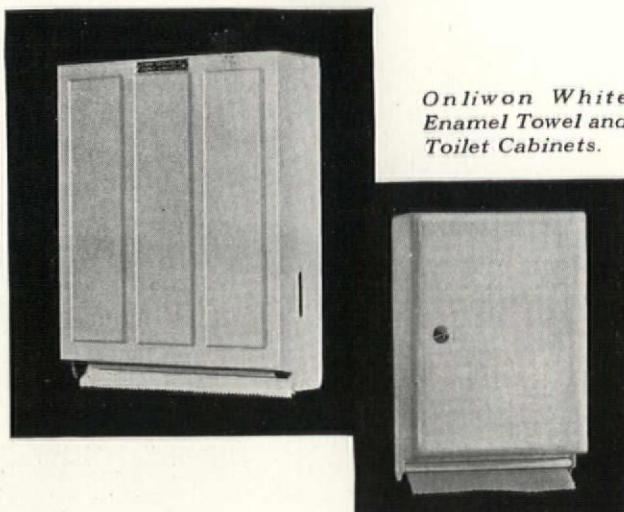
is no fun being that. But Mr. Wenner-Gren has had good products and he knows how to sell them. He started off with vacuum cleaners, added household appliances and then acquired the patents to the absorption type refrigerator which all U. S. housewives know as Electrolux. He sold the Canadian, Cuban and U. S. rights to Servel and through that deal eventually became Servel's largest stockholder. Servel now proposes to sell him a lot more stock and make him board chairman. A tall, red-cheeked son of a Swedish count, he had an eye for the main chance even before he was out of school. Learning big business in Berlin, he traveled all over the world, married the sister of the old-time film actress, Jean Gautier, now chats with his wife in 18 languages. They prefer Anglic, which is English with simplified spelling. His A.B. Electrolux has grown a thousand-fold since it was founded in 1919.

**Between Sales:** Best known State insurance commissioner is Colonel Howard Dunham of Connecticut. A genial Vermonter, he used to be a newspaperman, went with Aetna Life and then into politics. He is in constant demand as a speaker at insurance conventions but he never attends without his wife and his mother-in-law. The mother-in-law is a grand old lady of 80 or more who delights in sitting up until dawn threshing out insurance problems with the best of them. A member of the Hartford insurance aristocracy, she knows her underwriting too. . . . Humble Oil's three-for-one split up disappointed some shareholders who expected a distribution of pipe-line properties. The reason the directors let the stockholders decide on it themselves was probably to avoid the burden of directorial liability on new shares. . . . Great Western Sugar's distribution of shares in Poudre la Cache Co. represents a distribution of surplus to avoid taxes. . . . The president of Hahn Department Stores resigned for the novel reason of "wishing to devote more time to exercise." . . . First big post-Depression (we hope it's Post) industrial expansion (not including the Peoria distillery) is Mathieson Alkali's great expansion, financed by sale of more stock to stockholders. Many people think industrial construction will revive building instead of residential. . . . Boston's Frederick Prince who is now Armour's biggest stockholder affects a monocle and is M.F.H. at Pau, France. He may end all the internal conflict which has taken the juice of the Armour business. . . . The morning of repeal Emerson Bromo Seltzer "A" shares were admitted to the Curb.

Elizabeth Hawes, socialite dress designer, is advertising special "inflation wallets" which will hold all the "autumn leaves that will come drifting off the presses." Her former partner was the niece of Frank Vanderlip. Perhaps it wasn't so original after all. . . . Chicago courts ruled that creditors might sleep out their claims in the receivership Hotel La Salle. . . . If the Washington reporters have their Gridiron Dinner, why not a Flatiron Dinner for architects. . . . Sensing its possible news value a flock of reporters called on famed Manhattan physicians to get their opinions on the most efficacious remedy for hangovers. The survey revealed that medicine knew of no remedy but one elderly medicine man with a Van Dyke beard suggested: "The drunkard's cure, you know. A chop, a dog and a pony of whiskey. Dog to eat chop. Good morning, gentlemen."

**Longan Short**

# HERE . . .



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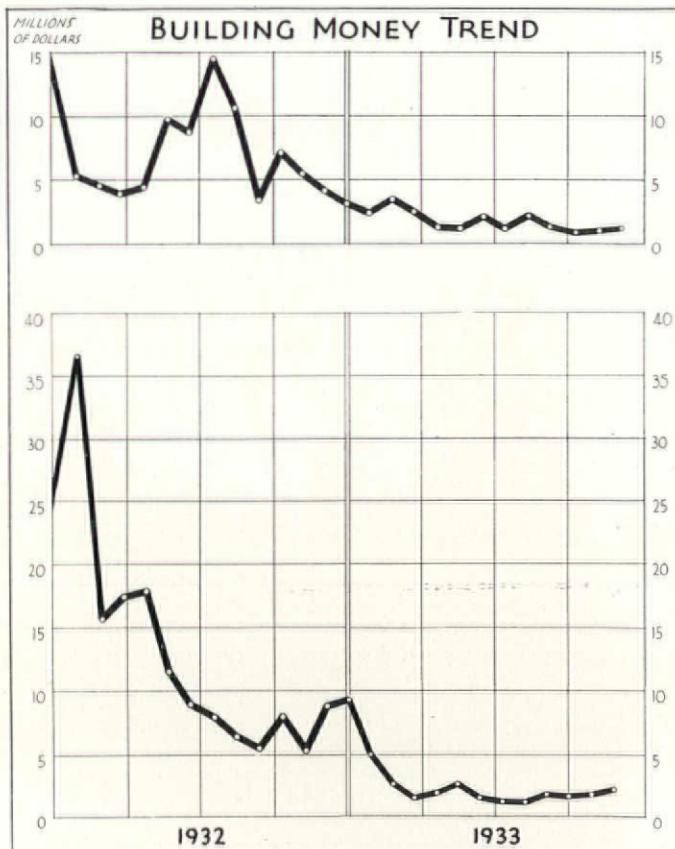
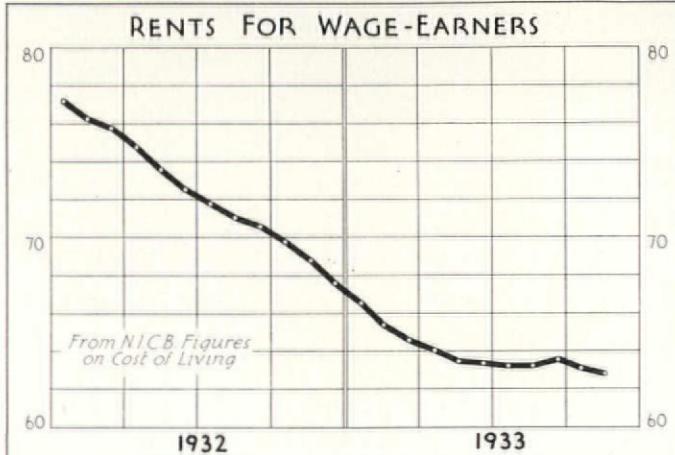
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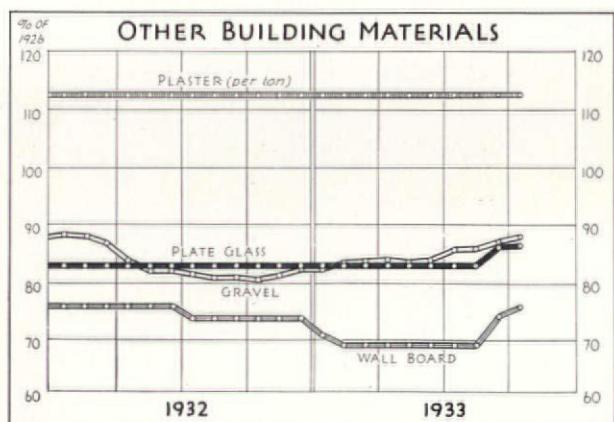
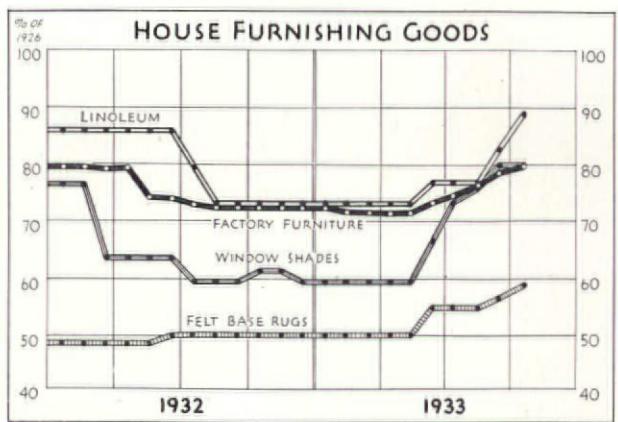
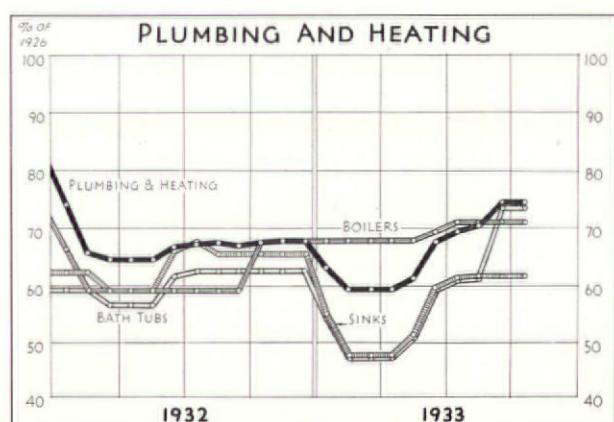
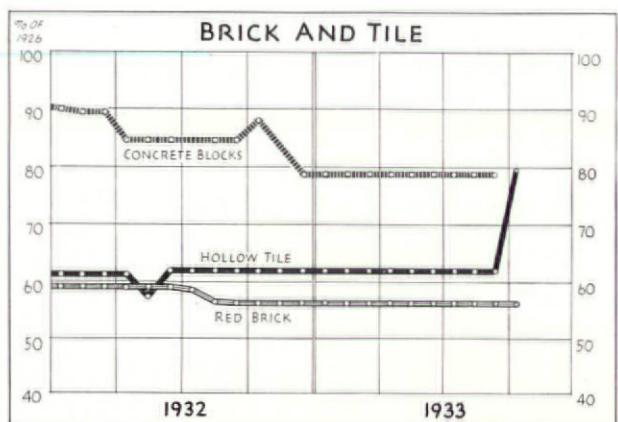
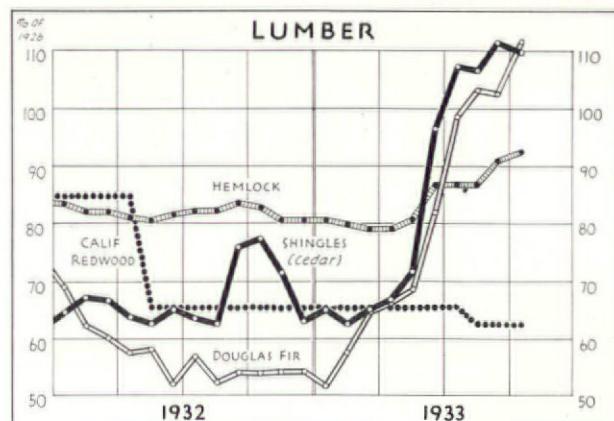
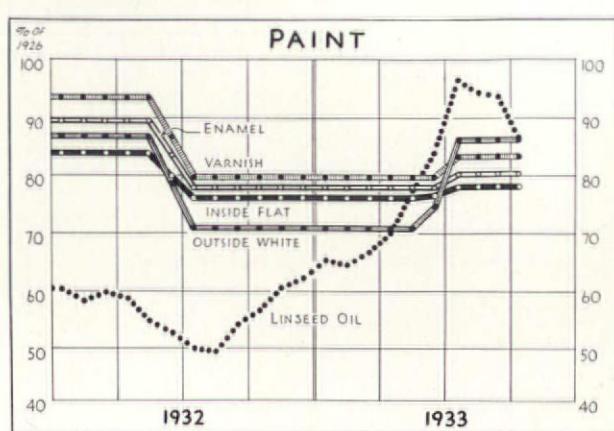
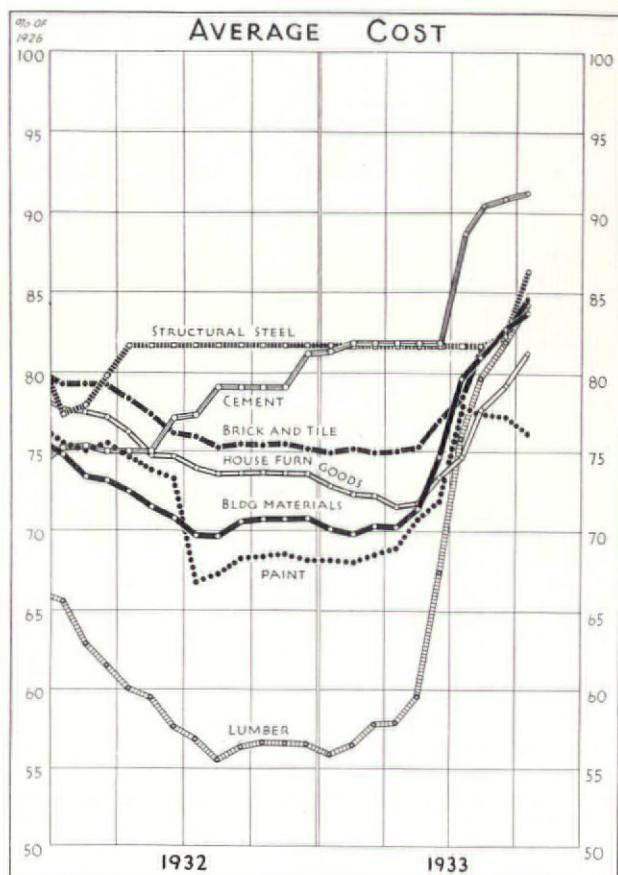
## CHARTS



The trend of money output for building is shown, the upper chart representing the Urban Mortgage Investments of 34 Leading Savings Banks, and the lower, that of 28 Leading Life Insurance Companies.

These charts are based on four week totals compiled and copyrighted by the New York Evening Post.

# COST OF BUILDING



## THE BEST OUTLOOK

for three years is Dun & Bradstreet's prediction for building.

LAST month the building industry was reviewed by Dun & Bradstreet, Inc. Chief findings were: "Progress in building industry still slow"; "Permits running larger"; "Prices of materials higher"; "Spring outlook encouraging."

Important parts of the review are quoted below:

"In spite of some increase in the value of building permits filed during the last five months, an improved rental situation, and the widening of activity of governmental projects, the building industry has not made much headway this year. Construction operations have been bereft of speculative stimuli to attract building capital, which has kept new building down to actual requirements, chiefly in the nature of alterations and repairs. As the result of foreclosures of homes, and the desire to remarket these as quickly as possible, much remodeling has been in progress in nearly all districts, and work on industrial plants has been extended over last year's volume. Tax delinquency, which has been a growing harassment to the industry, has risen in three years from 10 per cent to nearly 50 per cent in some sections of the country, and the thousands of defaults in mortgage payments, which involve many millions of dollars, are rendering the future of property investment both speculative and obscure.

"As a whole, the building industry represents the largest of the capital goods industries in the country, and in normal times employs about 4,000,000 men at the site and as many more behind the site in manufacturing plants and quarries to produce the required materials. Any sustained progress in this industry, therefore, would result in a rapid reduction in the ranks of the unemployed, with the increased earnings providing a powerful impetus to consumer buying power. Lack of adequate housing facilities is pointed out as a cause for an early revival of the industry, and confidence is felt that the coming spring will bring a rising building trend.

"There has been an almost uniformly progressive increase in the value of building permits since February. While there was a rather sharp decrease in October, the compilation prepared by Dun & Bradstreet, Inc., of 215 identical cities of the United States showed that for the fifth month in succession building expenditures were in excess of those of a year ago. The peak of the year was reached in June, when building permit values aggregated \$34,098,384, or nearly double the February total of \$17,171,943, which was the low point of the year. In spite of the moderate gain, however, the total value of building permits filed for the ten months ended October 31, was only \$260,686,018, as compared with \$346,707,931 for the corresponding ten

months of 1932, a decline of \$86,021,913, or 24.8 per cent.

"The chief encouragement this year has been provided by the increase in modernizing and repair work. This has resulted in the sale of moderate amounts of materials, but usually at better profit margins than last year. Legalizing the sale of beer and the repeal of prohibition have accounted for much of the new building of industrial plants and the remodeling of old ones.

"Most of the work now in progress is that which is financed with money provided by the Federal Government under the Public Works Administration, the Civil Works Administration, or similar agencies. While the Public Works Administration appropriated \$3,300,000,000 for construction work of various kinds throughout the country, in order to afford employment, and also to act as a primer for the construction industry, the allocations made thus far have not accelerated the industry to any great extent, probably because of the delay in getting the code of the building industry into operation. This also may explain the timidity of private capital in seeking this field as an investment. These various governmental projects, however, have been helpful in reducing unemployment and in increasing the purchasing power in many districts to a figure above that of a year ago.

"The price trend of building materials is somewhat upward, as the construction industry employs materials produced by industries already under codes, and the latter, in many instances, have resulted in a higher cost of production. The codes adopted by manufacturers of materials have helped both the general and subcontractors, as it makes impossible the shopping and peddling of bids; for, when a price is named for a certain commodity that is the price which must be paid. Building contractors estimate that the cost of erecting a five-room house is about 10 per cent, or \$500, more than it was six months ago. Collections in nearly all branches of the industry continue slow and draggy.

"Building material companies are looking forward with much anticipation for the release of work which will come from the refinancing of mortgages by the Home Owners' Loan Corporation. In a large majority of these loans, repair work running from \$100 to \$500 per loan is being authorized, and by the spring of 1934 an immense amount of this type of work should be under way.

"The matter of financing new construction still is difficult and only prime loans are being accepted by building and loan associations and individuals. Insurance funds are being offered sparingly for construction work. Mortgage companies still are trying to liquidate or obtain extensions on mortgage indebtedness which has been hypothecated to secure bond issues. Banks have been on a restricted basis and are relentless in their attempts to collect mortgage loans from individuals and building loan associations, while the latter report

collections slow, because of unemployment and low wages. While the outlook for the spring season is the best it has been in the last three years, it appears that a long time must elapse before the building industry will have resumed the pace of 1927, 1928, and 1929."

## A BILLION FOR HOMES

is sought by Don A. Loftus of Homes Permanesque and his allies.

In the National Association of Real Estate Boards there is a Land Developers and Home Builders Division. Last month NAREB took pains to point out that this division, to which subdividers belong, is connected not at all with similar-sounding Home Builders and Land Developers National Committee. The latter group was recently formed (*The Architectural Forum*, November) to persuade the Government to release loans for the construction of homes by reputable builders. Its mainspring, mainstay and mouthpiece is Don A. Loftus of Cleveland.

A writer in the *Nation*, discussing the TVA last month, said "One of the pet gold bricks of America is the own-your-own-home movement that has been so lovingly fostered by speculators, mortgage companies, and sentimentalists. . . . Real estate investment is a luxury. . . . The amateur buyer of real estate rarely has the knowledge to invest in a place that will appreciate in value in twenty years or so. . . . At every stage in the game the amateur pays through the nose, as against a housing corporation."

These words, if they had come before the eyes of Don A. Loftus, would surely have caused him to choke with anger. For in addition to being one of Cleveland's foremost land developers, he is a bitter, arch-opponent of all housing except that which provides a single-family home, a bit of garden. Says he: "Building a home is the greatest romance and the greatest adventure we may enjoy. It stimulates the best that is in us into expression in a concrete and material way to that which exists in the spirit of the people."

Mr. Loftus has developed 58 different home areas within Metropolitan Cleveland. His present development is a 1,500-acre tract known as Eureka Park. In 1927 he started the Build-A-Home First movement in Cleveland, originated the model exhibit house of which he constructed 15 which played host to 250,000 persons. Mr. Loftus' homes are sold under the trademark "Permanesque Homes" and his Homes Permanesque of America, Inc., has offices in 62 cities. Architect for the homes is Philo R. Brooke, of whom a Homes Permanesque pamphlet says: "To us who are Clevelanders his name is synonymous with all that is best in architecture and construction through his past connection as

supervising architect of the Van Sweringen Co., in Shaker Heights."

In Washington, Builder Loftus' group formed a new organization which called itself the Home and Community Builders National Association which claimed to be "the first organization of builders and developers who represent right now a capital investment of more than \$500,000,000, who in normal times build an average of 300,000 domiciles annually." Undaunted by the fact that neither the President nor Secretary Ickes would see his "caravan" of 50 or so builders, Mr. Loftus went ahead with plans of wide scope.

His first official statement indicated that no phase of home building would be beyond the province of the Association. Said he: "We may have our own consumers' board . . . and we may want to set up some kind of bureau for the study and solution of matters directly affecting the families we house. I can see a day when the industry that builds homes may want to go deeply into the study of euthenics—the new study that teaches people how to get along with



Don A. Loftus

each other so that we may aid in the wider development of happy family lives."

Other plans of the Home and Community Builders:

"Continuance of the survey showing the immediate need for a billion dollars in first mortgage financing that can come from no other present source but the Federal Government. . . . This data will be relied upon to convince the Government officials. . . .

"This Association will recommend that a special department be created for the administration of this fund, probably apart from the PWA Housing Board, and will ask that it be permitted to recommend a list of men qualified to fill this post. . . .

"This Association will prepare and present, within the next 30 days [i.e., by January 24], a new Code for home builders and community developers. The Codes already submitted by organizations that do



#### Trade Mark

not represent this industry are not satisfactory to us because it (sic) emanates

from a source not familiar with the needs of this industry. . . . This Association has begun and will never let up on a program in defense of the social and economic advantages of the single-family home and is opposed to mass housing where people are able, willing and ready to finance individual homes which is the case at present."

After this outline of immediate needs, President Loftus spoke of "the long time program." He said, "We intend to initiate many important pieces of work. . . . We probably will have a department on materials and design to assemble and correlate the best opinion and thought on architectural design, building materials and equipment."



## ON THE *Dotted Line* . . .

You have formed a mental picture of your completed job. You are concerned not only with how it will perform, but how it will look. Will it come up to your expectations in every respect? Will it show evidence of careful planning, proper coordination of parts and sound engineering? Will every detail down to the last pipe and hanger be in keeping with the high quality installation which you have visualized . . . in short, will it look like the job you would like to do yourself if you could put it together piece by piece . . . a job that will not only perform efficiently and dependably but will look the part as well? Satisfy yourself that it will, before you sign on the dotted line.

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 **REFRIGERATION • AIR CONDITIONING**  
**MILK & ICE CREAM PLANT EQUIPMENT**

## WITHOUT COMMENT

THERE is one prominent building and loan association in Louisville which had some difficulty in keeping much of its property rented. Officers of the organization decided to have every one of its houses painted and renovated as a sort of experiment to see if the increased number of rentals would not more than offset the expense incurred. Results exceeded the hopes of even the most optimistic of those building and loan men, for every one of the 102 houses owned by the company is now rented on a profitable basis to a desirable tenant." *James T. Menefee*, president of the Merchant's and Manufacturer's Paint Co., Louisville.

"We are beginning to feel a nice increase in number of tenants and amount of space rented." *T. J. Reed*, manager of Chicago's Merchandise Mart.

"Our business this quarter is running fully 50 per cent ahead of last year. Our own surveys convince us that we are going to have a good 1934. There is to be extensive construction of homes of the \$2,000 to \$3,500 class. We are busy perfecting a type of small home which will cost less than anything now available." *B. G. Dahlberg*, president of the Celotex Co.

"All banks which have made loans on real estate have gotten into trouble." *Charles C. McCain*, Chase National Bank board chairman.

"Our company has been able to obtain considerable first mortgage money. In connection with the announcement of our resumption of market building we are happy to say that all of this construction will proceed under architectural supervision." *George W. Miller*, Cincinnati subdivider.

"This proposal is our only hope. Our farmers have reached the end of the trail. Tens of thousands are slowly facing death in the midst of plenty. If the petition is granted our people will dance with joy in the streets; if not, they will be in utter despair." *A. C. Townley*, originator of a proposal by which the PWA would advance \$5,000,000 to North Dakota for the establishment of State-owned industries. Deputy Administrator Henry Matson Waite was quoted as saying the Administration is "tremendously interested in the idea."

"Existing building and loan associations are being taken into the Federal Home Loan Banks at a rapid rate. . . . Federal savings and loan associations are being organized in many localities, thus bringing new savers' capital and millions of dollars of Government investments into the home mortgage field. The small home loan rather than the big property loan is given preference by all of these new sources of funds in the home mortgage market. Of course capital from these sources will not be available to real estate operators and to speculators. With financing definitely improving, the maintenance of a good increase in home prices is assured." Report of the *Home Building and Home Owning Committee* of the U. S. Building and Loan League.

"Our confidence that the improvement in business conditions will continue was the major factor in our decision to make this



For Chicago

investment." *Gen. Robert E. Wood*, president of Sears, Roebuck and Co., announcing a new five-story \$1,500,000 retail store building for Chicago's south side. Nimmons, Carr and Wright are the architects and workmen began to clear the site this month.

"I know that a lot of people in this country believe that the public work that is now in progress will tide us over; and that it will carry over into normal times. I do not believe that. I believe that for years to come the Federal and State governments are going to be forced to provide work for thousands of men for whom there is no place in farming or industry." *E. W. Marland*, Congressman from Oklahoma who wants an Arkansas Valley Authority.

"There would be considerably more house building at present if the money market were opened wider." *John N. McGarvey*, executive committee chairman of the Philadelphia Homebuilders' Association.

"HAPPY DAYS! . . . INSURANCE COMPANY ANNOUNCES RENEWAL OF LENDING POLICY ON CINCY REAL ESTATE." Headline in the Cincinnati *Enquirer*.

"People, and particularly groups of wage-earners in different cities, should make plans and forward them to Washington as suggestions for the practical carrying out of local housing programs. Social surveys should be made in all cases before the architectural plan is made. Let the human considerations about how people do live and want to live come first and the architectural designs later." *Frances Perkins*, Secretary of Labor.

"The objective of this program is a wider and greatly increased use of electricity in the homes and on the farms in the seven States of the Tennessee Valley. In order to carry out the program there must be a broad-scale distribution of very-low-cost-standard-quality electricity-using appliances." *David E. Lilienthal*, director and general counsel of the TVA, explaining President Roosevelt's executive order directing the establishment of the Electric Home and Farm Authority, Inc., which will (1) assist in financing the consumer in purchasing standard electric equipment at very low prices; (2) secure reductions in electric rates by agreement with the utilities, so as to make use of this equipment feasible for the average householder and farmer; and (3) engage in educational work and research to further lower the cost of electric equipment and to make it better adapted to the needs of the average home and farm. Said the President's Assistant Secretary Stephen T. Early: "Manufacturers of electrical equipment have been in Washington in conference with TVA officials, and are most anxious to obtain the market."

"The type of housing we want New York to have as replacement for the slums is one that will keep absolutely away from standardization. Nothing to my mind is more depressing, more demoralizing, than row after row of similar houses. We intend to allow many architects to draw the plans." *Langdon W. Post*, named Tenement House Commissioner for New York City by Mayor-elect Fiorello H. LaGuardia.

"Turning of the first shovelful of earth in your city marks the first practical start of housing in the entire program for the nation." Letter from *N. Max Dunning* of the PWA, read at the official ground-breaking ceremony for the Euclid housing project (*The Architectural Forum*, October). First shovelful was turned by the real estate editor of the Cleveland Plain Dealer.

"Before 1930 anyone could have made mistakes. But I think everyone should be held accountable for his acts after the red flag went up in 1930. I wouldn't be surprised if there were some indictments resulting from New York's mortgage investigation." *Robert E. Dowling*.

# THE FORUM OF EVENTS

## A.I.A. BUGABOO

"I AM told," said N. Y. Architectural League President Arthur Loomis Harmon at a luncheon one day last month, "that when A.I.A. presidents take office, they are advised by their predecessors to make themselves at home among the files, but not to open the drawer marked 'Competitions.' It is the Pandora's Box of the A.I.A. Ninety-four per cent of all charges brought against Institute members are for violations of the competition provisions of the code of ethics."

So saying, he introduced to the assembled Leaguers Auctioneer Joseph P. Day, to whom, as every New Yorker knows, all good buildings go when they die. His presence there was the result of a storm of protest brewed by a competition he and realtor Peter Grimm had launched under the sponsorship of *The Architectural Forum*. To bring the discussion out into open meeting President Harmon had invited him to explain to the protesters the origin and purpose of the competition.

Sandwiched in between a dissertation on the stumblingblocks in the path of building revival, Auctioneer Day, who looks and talks like a merger of Al Smith and Kenneth Murchison, explained that they had no intention of leading architects into violation of their code of ethics, that the competition was not promoted to get a lot of free architectural service, that it was simply a competition for an idea to stir up interest in a dead property.

ORIGIN. Built in 1895 under poor architectural auspices by the late Oscar Hammerstein, the building contains two theaters, a roof garden and dance hall. Never successful financially, foreclosure action was filed against it last June by the City Bank Farmers Trust Company. Holders of the \$4,000,000 first mortgage retained Messrs. Day and Grimm to rescue it if they could. After several unsuccessful efforts to find a buyer, they had about decided to let the property go when the competition was suggested as a possible way out.

Though no one in Day's audience questioned the high motives of the competition's sponsors, many who regard the Institute's ethical code as more than a scrap of paper, were sure it was contrary to the best interests of the profession, feared it might set a bad precedent. Slightly embarrassed by Mr. Day's good-natured jibes at him,\* able

\*Among other things, Mr. Day called out, "Freddie, come up here. I'd like to kiss you."



AUCTIONEER DAY

*His \$1,000 was not intended to lead architects into violating A.I.A. competition rules*



PETER GRIMM

*President N. Y. Real Estate Board, and Wm. A. White & Sons — the competition's co-sponsor*

architect Frederic Hiron pointed out that the A.I.A. specifically forbade its members to enter open competitions for buildings, and confessed amazement that the Institute's New York Chapter president Ralph Walker and the League's president should have consented to serve on the jury. Speaking for his absent colleague as well as him-

self, Mr. Harmon replied it was not a competition for a building, but a competition for an idea, that although the winner might get a job if his idea produced a buyer, there was actually no job to be had.

No decision was reached but the consensus seemed to be that the competition did not violate Institute rules, that the competition unearthed splendid opportunities to architects to make their influence felt in resuscitating ailing real estate markets.

## JOBS

NEWSWORTHY jobs loomed last month in: Bristol, Conn., which plans buildings for a 75-acre park site, the gift of Leading Citizen DeWitt Page, president of the New Departure Mfg. Co.

Oklahoma City, about to get its new \$500,000 Santa Fe station.

Oakland, Calif., where Architect W. G. Corlett was commissioned by the school board to work on a survey of Oakland's school needs, preliminary to calling a bond election to finance new construction and additions to existing school buildings.

Los Angeles, Calif., where T. C. Kistner is architect for a million dollar modernistic pleasure pier for the Halper-Robbins Corp.

Nashville, Tenn., where Architects Barber & McMurry, of Knoxville, expected to start work soon on a \$500,000 building program for the University of Tennessee.

San Diego, Calif., where county officials were about to call for vote on a million-dollar bond issue for a proposed city-county building, for which Architect C. Quayle has prepared sketches.

Meridian, Miss., whose Chamber of Commerce was proud to announce that the Phillips-Jones Corp., of New York, which manufactures Van Heusen collars, plans a \$90,000 factory there, for which an architect has not yet been chosen.

The State of New Jersey, where plans for low-cost housing were ready for inspection by a newly created State housing board in Newark (State House Corp., \$2,650,000) and in nearby Irvington (Irvington Housing Corp., \$2,988,000).

Philadelphia, where bids were asked for the \$560,000 Sullivan Memorial Library building at Temple University, which Architect W. H. Lee has designed.

Jersey City, N. J., where H. A. Kelly and J. B. Peterkin are the architects for a five-story apartment house to cost \$1,400,000.

# THE FORUM OF EVENTS

(Continued)

## CRUEL CAMERA

OF ALL U. S. museums, none is so generous to architecture as New York's Museum of Modern Art. Founded less than five years ago, with Rockefeller money principally, it boasts a permanent department of architecture, has two traveling architectural shows, and carries on a persistent campaign for recognition of modern design.

Last month, in an exhibition of 19th Century American house photographs by Walker Evans, it held up to ridicule the

*The Italian villa at its worst — or the sad consequence of letting Vermont carpenters look at pictures*



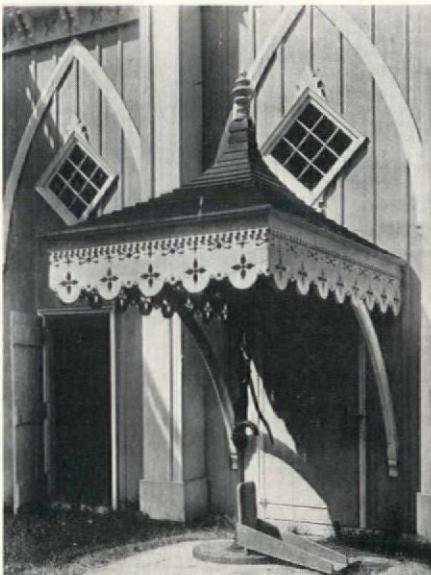
*A touch of splendor, a canopy under a porch, found in the town of Nyack, N. Y.*

sins of the carpenters and architects who flourished in what is generally referred to as the General Grant era. As often as this period has been sarcastically damned by the critics, nothing has been so honest or so cruel as Evans' untitled pictures. His collection of gingerbread is not exaggerated by undue emphasis. Each photograph is a documentary record. There are no trick angles to his pictures, no distortions contributed by his own opinions. He utilizes to the fullest the camera's primary function, the recording of an event or a scene — "re-

portage" seems to be the critics' word for it.

Says Lincoln Kirstein, "Evans' style is based on moral virtues of patience, surgical accuracy and self-effacement. . . . Many of the houses seem to exist in an airless atmosphere, much as they exist in the airless nostalgia for the past to which Edward

*Disguised as a baptismal font, this is still only a pump in Kennebunk, Maine*



*(Right) Amid the horrors, Cambridge, Mass., upholds the noble classic traditions*



*(Left) Nyack also contributes this evidence of the church's influence on the home*

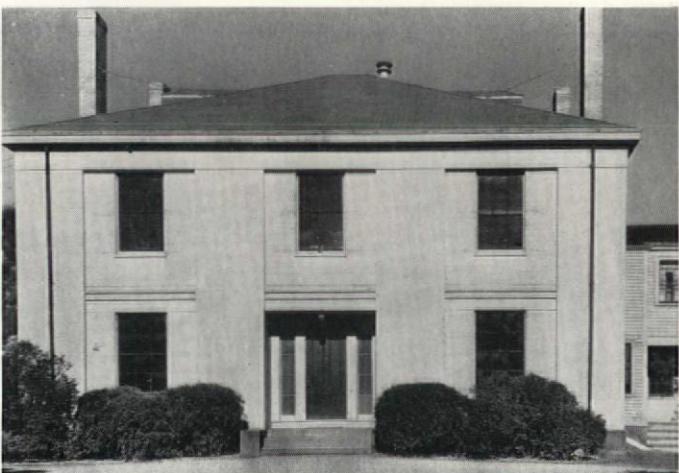


*These Boston house eaves have a bad case of icicles. Can this be the "frozen fountain?"*

Hopper in his noble canvases pays a more personal tribute."

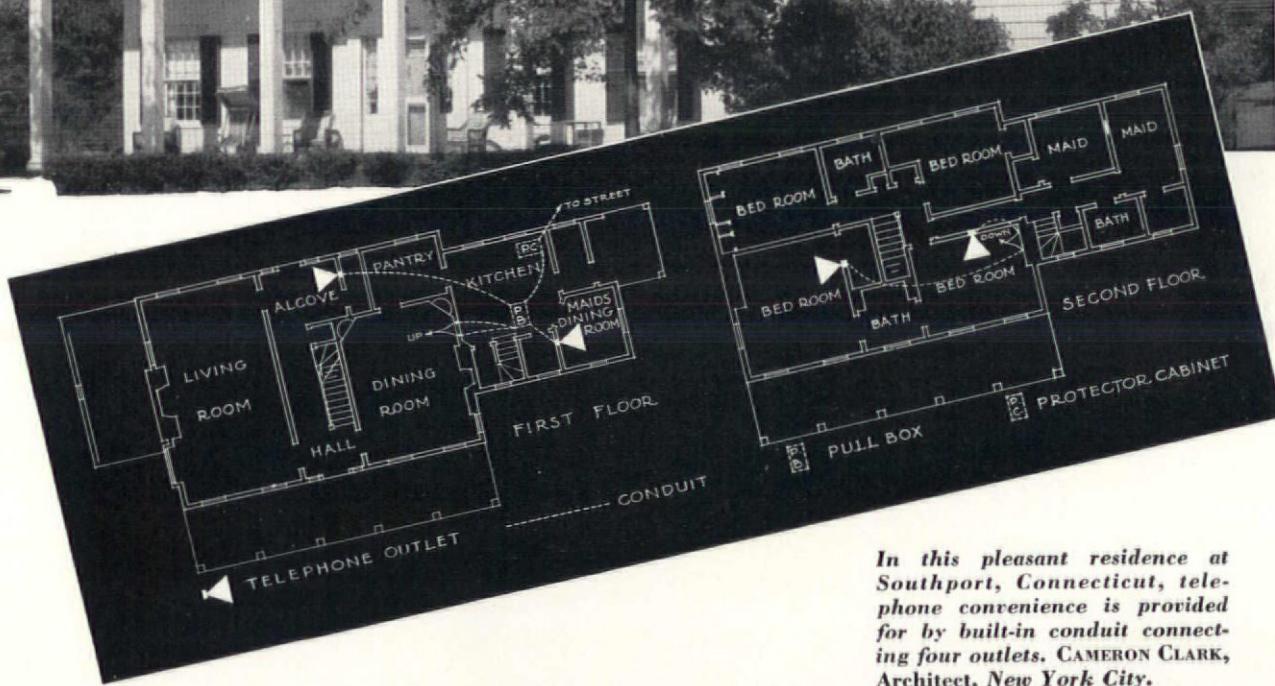
Occasionally, as illustrated by the house in the bottom right hand corner, he has included pictures of early Federal houses, perhaps to illustrate the fact that not all the Nineteenth Century work was hopeless. He found most of his subjects in Massachusetts, New York, Maine and New Jersey. Studies of Detroit, Cleveland, Chicago, St. Louis, Philadelphia are to follow.

It is curious, and perhaps significant, that the two towns most guilty of architectural horrors were founded as religious revival camp meetings — Oak Bluffs, Mass., and Ocean Grove, N. J.



*Photos by Walker Evans, Courtesy, Museum of Modern Art*

PLEASE SAMPLE OUR  
FREE SERVICE!



*In this pleasant residence at Southport, Connecticut, telephone convenience is provided for by built-in conduit connecting four outlets. CAMERON CLARK, Architect, New York City.*

MONTH after month, in these pages, we've presented the story of telephone convenience. We've illustrated well-planned homes with well-planned telephone arrangements. We've talked of the steps and minutes saved by handy telephones — the comfort and privacy they afford.

But nothing we can say is half as effective as a sample of our service. Won't you, on your next residence project, enlist the advice of the local telephone company? Trained engineers will help you prepare a conduit layout for walls and

floors — will suggest strategic locations for telephone outlets — locations that meet immediate needs and anticipate future requirements.

Even on paper, clients can appreciate the obvious advantages of adequate telephone facilities. But as time proves the soundness of your planning — in livability and comfort — in freedom from service interruptions — they're doubly grateful to you.

Why not call the local Business Office, now, while you're thinking about it? Ask for "Architects' and Builders' Service." No charge.



# THE FORUM OF EVENTS

(Continued)

## \$124,000 FOR RELIEF

LAST month the Architects Emergency Committee for the Region of New York had been in existence three years. Often singled out as the most effective bureau set up by any business or profession for aiding its own during the depression, its able chairman Julian Clarence Levi gave out figures for the three year period.

Funds received: \$124,000 from architect-contributors, from public contributors through the Women's Division, from benefit parties, performances, sales of all kinds (principally of tea sets and of the book "Great Georgian Houses of America"), and by a guide service, the Manhattan Land Cruises.

Number unemployed registered: 3,155.

Number for whom work was obtained: 2,292 in temporary positions of varying duration, of which 580 were in private employment, 958 with the Emergency Work Bureau, the City Work Bureau, and the State Temporary Emergency Relief Administration; 754 on work created by the committee itself.

Administration cost: \$5,700, which came from a separate fund.

In addition, 208 obtained cash prizes in competitions sponsored by the committee;

125 obtained cash relief; 59 obtained relief from the Home Relief Bureau; 288 obtained clothing.

The made work included surveys of economic, social, and physical conditions in the city, model-making, specification studies for the Division of Architecture of the State Housing Board, research in industrial economy for Columbia University (Technocracy), drawings and measurements for "Great Georgian Houses in America."

The fact of which the committee felt most proud: 95 per cent of the money received was spent for salaries for useful work, only 5 per cent for cash relief, meals, shelter.

The committee, in announcing its continuation for another year, pointed out that temporary government measures could not immediately overcome the desperate situation in the profession until recovery becomes general, urged the profession and public to continue their support.

## BUILDING PRESERVATION

LEICESTER Bodine Holland is probably the best friend an old building has. Chief of the Fine Arts Division of the Library of Congress, and chairman of the A.I.A. Committee on the Preservation of Old Buildings, he has for many years been urging the country to spare its architectural relics. Fortunately he found one lover of traditions who could do something specific to help him — PWA Administrator Ickes.

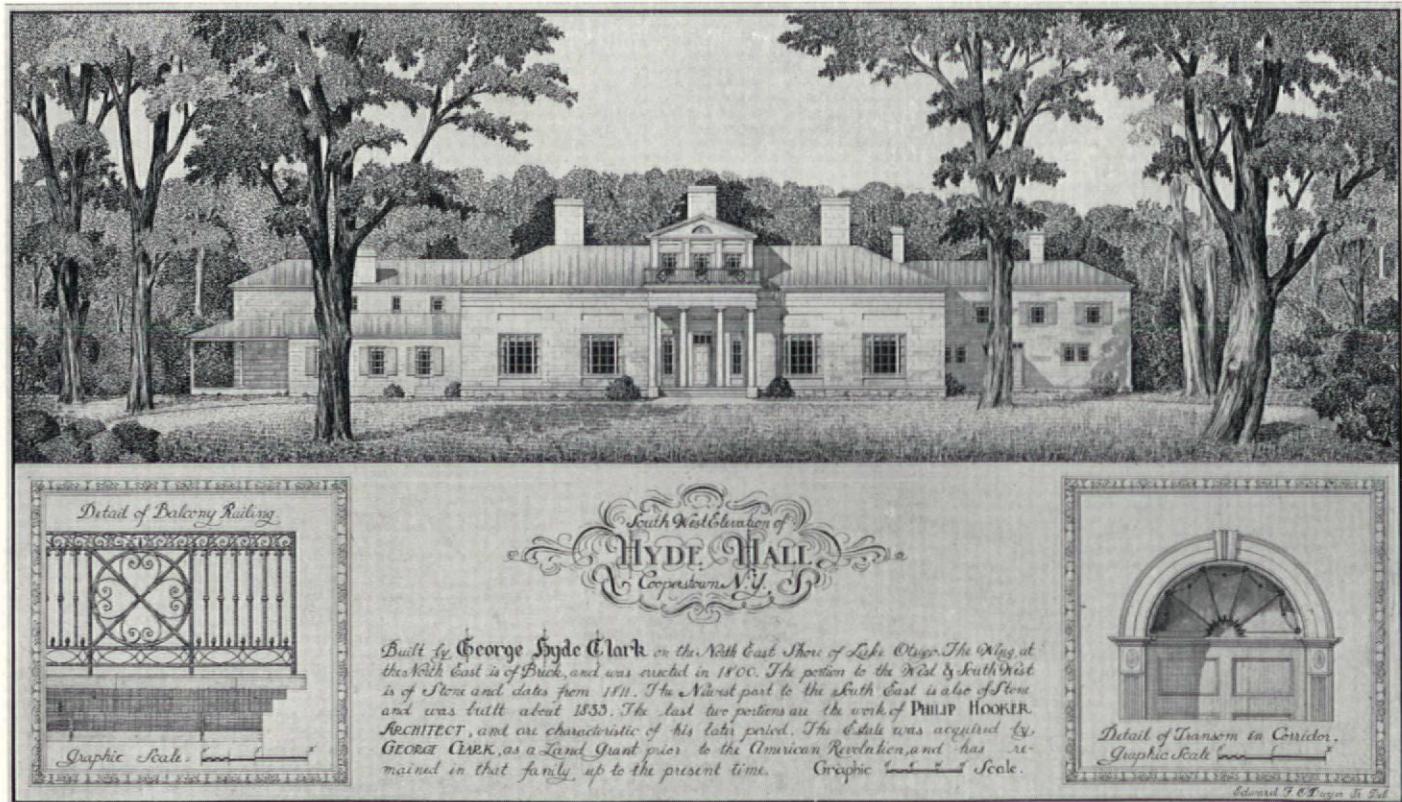
Out of the Public Works fund Adminis-

trator Ickes has drawn \$500,000 to be spent immediately in a nation-wide catalogue of historic buildings and bridges. Twelve hundred architects and draftsmen are finding work in making the survey, measuring and drawing up all buildings worth preserving.

Dr. Holland heads a committee of seven advisers, which includes architects John Gaw Meem, Santa Fe; William G. Perry, Boston; Albert Simons, Charleston, S. C.; and history professor Herbert W. Bolton of the University of California, Miss Harlean James, executive secretary of the American Civic Association, Dr. Waldo G. Leland, Council of Learned Societies.

Some time before Christmas there were to be appointed 44 technical advisers, all architects, to work under Thomas E. Vint, chief landscape architect of the Office of National Parks and Buildings. In each area to be surveyed, technical advisers will organize squads of two, four and six workers to follow up preservation possibilities. Approximately 60 offices are to be opened as regional headquarters, staffed by an architect, the squads of surveyors, and clerical help. Some say the survey will take two months to complete, others say six.

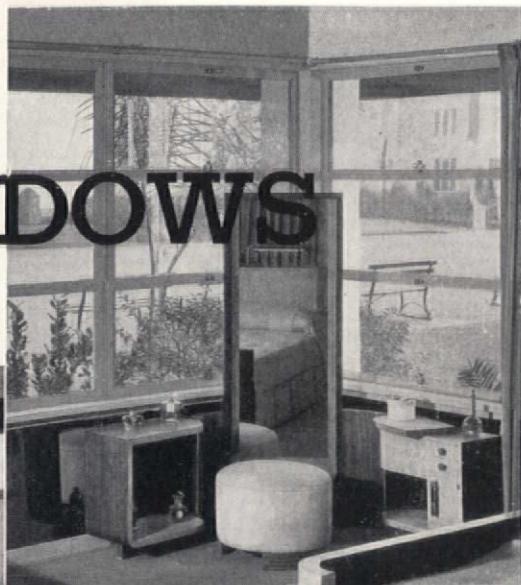
17th Century houses and 19th Century masonry bridges will be given particular emphasis — chosen primarily for their architectural merit, but considering also their historical significance. To be included also are aboriginal pueblos in the Southwest, Russian remains in Alaska, mining settlements, birthplaces of Presidents, statesmen, inventors, and other worthies.



Page from "Great Georgian Houses of America" being sold for \$20 to aid unemployed New York architects

This is the first of a series of pages devoted to the modern treatment of certain interesting details in construction.

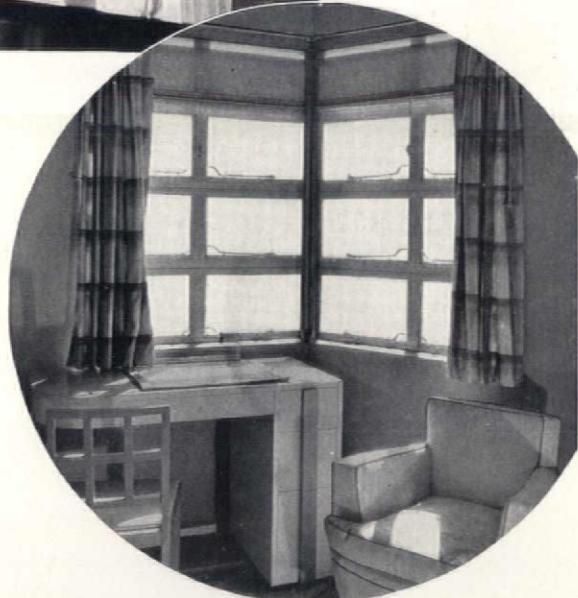
# CORNER WINDOWS



*A corner window in a bedroom. The sash, of steel or aluminum, operates separately, to give maximum ventilation. Below, the modern note is carried out in black structural glass.*

*Glass well deserves the added emphasis now placed upon it when it makes possible such a cheery, attractive dining alcove.*

● The *improved* product now manufactured by Libbey • Owens • Ford is particularly suited to the new and more rigid requirements which the modern architectural trend demands of glass. Its superior quality and the acceptance it enjoys endorse our assertion that a closed specification for L•O•F Quality Glass will insure your client's complete satisfaction.



*Here, the corner window extends floorward only to the level of a desk-top, making an especially pleasant and practical spot for writing or reading.*

LIBBEY • OWENS • FORD GLASS COMPANY, TOLEDO, OHIO, manufacturers of Highest Quality Flat Drawn Window Glass, Polished Plate Glass and Safety Glass; also distributors of Figured and Wire Glass manufactured by the Blue Ridge Glass Corp. of Kingsport, Tenn.

(The details illustrated are from photographs taken in the Home Planning Section at the World's Fair.)



**LIBBEY • OWENS • FORD  
QUALITY GLASS**

## THE FORUM OF EVENTS

(Continued)

### TIMBER COLONY

IN THE little town of Kochenhof just outside Stuttgart in Germany, there has just been completed a middle class housing development — all the houses timber in construction, none modern in the "International" sense. The houses had what few new houses in Germany have — pitched roofs. Throughout the colony, which consists of 16 one-family houses, four semi-detached houses, and one apartment house, there is planned consistency. Besides conforming to a regional plan that affords good orientation to all the houses, the form of the buildings, the height of cornices, the shape of roofs, materials, exterior colors, roofing, landscaping were all restricted by a master plan.

The houses are not simply copies of farm houses and cottages; each is definitely intended to be a small town residence. In the presence of cubical forms, elimination of projecting eaves, minimization of trim, and flush windows, the influence of modern European architecture is easily visible. The houses seem to strike a ground midway between the old and the new.

Twenty-four different architects of Stuttgart participated in planning and designing the houses, under the general direction of Dr. Paul Schmitthenner. The average cost per cu. meter was about 25 marks. The apartment house illustrated on this page was designed by Dr. Paul Bonatz and F. E. Scholer.

### COMPETITIONS AND AWARDS

JANUARY 15 is the closing date for the annual Better Homes in America competition. See pages 6-7 of the December issue of *The Architectural Forum* for complete details.

A \$100 first prize and a \$50 second prize are being offered to architectural and en-

gineering students by the A.I.S.C. for the best designs for a steel tower of a small highway suspension bridge. Competitors must submit preliminary drawings before March 3. For complete information, address the American Institute of Steel Construction, 200 Madison Ave., New York City.

Practicing architects, draftsmen, students and instructors in Maine, New Hampshire, Vermont and Massachusetts are invited to apply for the \$2,500 James Templeton Kelley Fellowship in architecture, assigned annually by the Boston Society of Architects and awarded on the basis of evidence of ability submitted by the applicant. Applications must be made to Niels H. Larsen, Secretary, 814 Statler Building, Boston, before February 15.

### DEATHS

RICHARD HENRY DANA, 54, architect, in New York, November 29.

Grandson of the author who bore the same name and of Henry Wadsworth Longfellow, Mr. Dana had been engaged in practice in New York since 1906. A member of the firm of Murphy & Dana until 1921, he had since maintained his own office. Mr. Dana's work was confined principally to residences.

Like five of his ancestors in direct succession, he was a graduate of Harvard. Mr. Dana received his architectural education at Columbia and the Ecole des Beaux Arts. From 1908 to 1916 he was a visiting lecturer at Yale.

• • •

GEORGE ERNEST MERRILL, 63, architect, in Danville, Pa., Nov. 22.

Architectural director of the American Baptist Home Missionary Society, Mr. Merrill had designed more than 600 small churches since 1920, and had consulted with the architects of more than a thousand other church projects. Born in St. Paul, Mr. Merrill lived in Montclair, N. J. From 1898 to 1908 he was associated with Ernest Flagg in the building expansion of the U. S. Naval Academy at Annapolis.

PHILIP H. JOHNSON, 65, architect, in Philadelphia, Nov. 29.

Mr. Johnson's death ended, in the only way that it could end, his incumbency of one of the most unusual public jobs ever held — "architect in perpetuity" for the Philadelphia Department of Health. Appointed in 1903, when his brother-in-law, the late Israel W. Dunham, was a power in politics, he held a contract entitling him to a fee of 6 per cent on all buildings erected by the Health Department. The 30-year total was \$1,799,211. Five times different mayors attempted to oust him, but the law held with Mr. Johnson.

Two jobs outside his department fell to his lot under Mayor Harry A. Mackey, the \$5,000,000 convention hall and a \$150,000 annex to the City Hall.

• • •

FREDERICK R. HIRSH, 68, architect, in Mount Vernon, N. Y., Nov. 22.

Born in Syracuse, N. Y., Mr. Hirsh received his early architectural training in Chicago. He was employed by McKim, Mead & White while Stanford White was living, and by Carrere & Hastings during the construction of the New York Public Library. For the last ten years he had been associated with the Eagle Bronze Works as a designer.

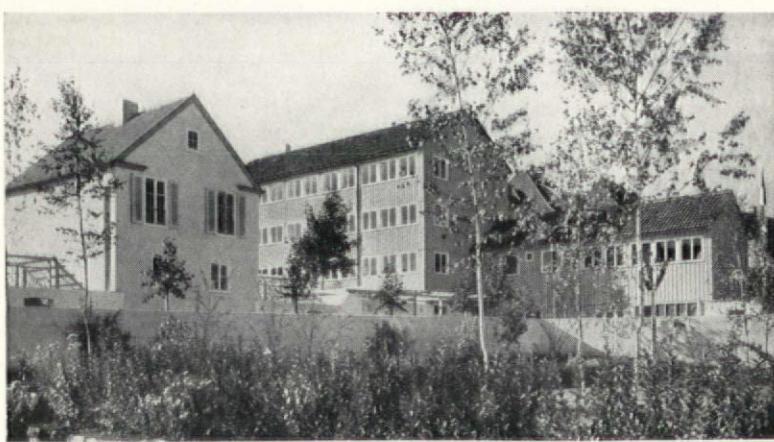
• • •

ALFRED O. ELZNER, 71, architect, in Cincinnati, Nov. 26.

A pioneer in the use of reinforced concrete construction, Mr. Elzner was the architect for many Cincinnati buildings. Among two of his best known buildings were those at Berea College and the Homestead Hotel, Hot Springs, Va.

### ERROR

IN THE list of acknowledgments published on page 72 of the supplement to the November issue, "New Houses From Old," the firm of Noel & Miller should have been included as architects for the Whitney Museum of Art.



Courtesy, "Moderne Bauformen"

### GERMANY'S ALL WOOD HOUSING DEVELOPMENT

Timber-constructed apartment house designed by Dr. Paul Schmitthenner for the colony of wood houses built in Stuttgart



# "I'm glad I had an Architect"



"I'M strong for professional advice. When I'm ill, I consult a doctor. When I want legal advice, I see a lawyer . . . So naturally, when I decided to build a home I called in an architect.

"I admit that when he spoke about steel joist construction for the first floor, I wasn't too enthusiastic. I supposed it would mean extra cost. But I offered no objection, reasoning that when you pay for professional advice you ought to follow it.

"That house has made me a stronger believer in professional advice than ever. These steel-joist floors won't creak or sag, and the architect assures me they can't ever shrink, to

form ugly cracks. Best of all, they provide a fire-safe barrier between the basement where, I understand, 70 per cent of fires start, and the living and sleeping rooms.

"Extra cost? There wasn't any, to speak of. This steel floor construction with its fire-resistance and other advantages meant a difference in cost of only a few cents a square foot."

\* \* \* \* \*

Kalman Floor Construction adds only a trifle to the cost of a home, or any type of building, because it simplifies the builder's work. Kalman

Joists are easily and quickly erected, without cutting or fitting; and the builder runs conduit and piping right through the open webs.

Kalman manufactures two distinct types of steel joist; Kalman-truss Joists (one-piece steel trusses) and MacMar Trussjoists (steel trusses assembled by pressure welding). Either type, in combination with concrete slab and plaster, provides fire-safe floor construction at very moderate cost.

*Kalman Steel Corporation, Subsidiary of Bethlehem Steel Corporation, General Offices: Bethlehem, Pa.*

## KALMAN STEEL JOISTS



# THE FORUM OF EVENTS

(Continued)

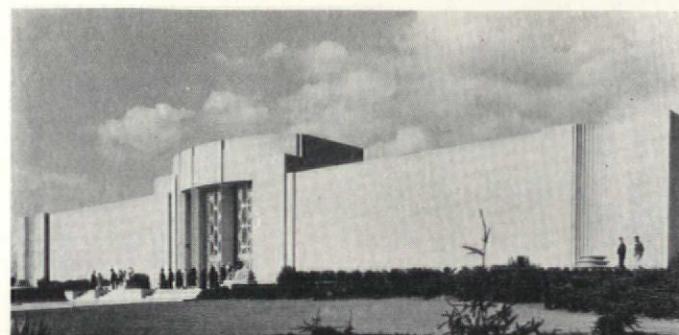
## ART FOR PWA

ARTISTS and decorative craftsmen, who gave promise as qualifying as the real forgotten men in the government's recovery doings, are to be included in the PWA program. Under the supervision of L. W. Robert, Jr., Assistant Secretary of the Treasury, a body has been set up called the Public Works of Art. It plans to employ 2,500 mural painters, sculptors and craftsmen decorating Federal and public buildings with "pictorial records of national activities under the recovery program and to tell the recent history of the country in mural decorations."

To advise Secretary Robert have been appointed: Charles Moore, chairman of the Fine Arts Commission; Rexford G. Tugwell, Assistant Secretary of Agriculture; Harry L. Hopkins, CWA chief; Henry T. Hunt, general counsel of PWA; Frederic A. Delano, director of the National Planning Commission; and Edward Bruce, the painter, secretary.

Work is to be handed out through fourteen regional commissions, chairmanned by local art authorities. New York's commission immediately ran into a storm of protest, because of its alleged preponderance of "modern" sympathizers.

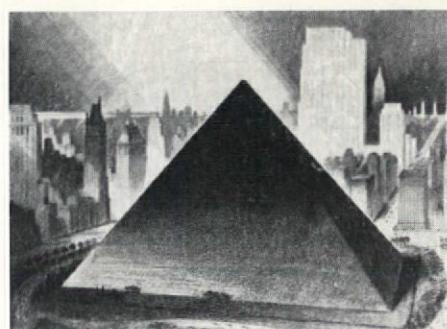
Norman Bel Geddes' medal presented to General Motors on its 25th anniversary by the National Alliance of Art and Industry



*The impressive facade of Seattle's new Art Museum, of which Bebb & Gould were the architects*



*One of the principal galleries of the Seattle Art Museum, all of which are contained on one floor*



*The 481-foot high Pyramid of Cheops, as Hugh Ferriss imagines it would look in Central Park against the N. Y. skyline*

## PYRAMID IN CENTRAL PARK

PROBABLY no one but Hugh Ferriss would have gone to the trouble of portraying what the great Pyramid of Cheops would look like if it were rebuilt in New York's Central

Park. The picture at left is the result of Mr. Ferriss's imagining.

The picture apparently intrigued the contracting firm of Barr, Irons & Lane, for it went to the trouble of estimating how long it would take to build, and how much it would cost. Based on figures supplied by Herodotus in 450 B.C., it seems that the Egyptians spent 180,000,000 man-days at it; to build a solid stone facsimile of it today would require 2,250,000 man-days; and to build one by modern methods of steel and concrete would require 750,000 man-days.

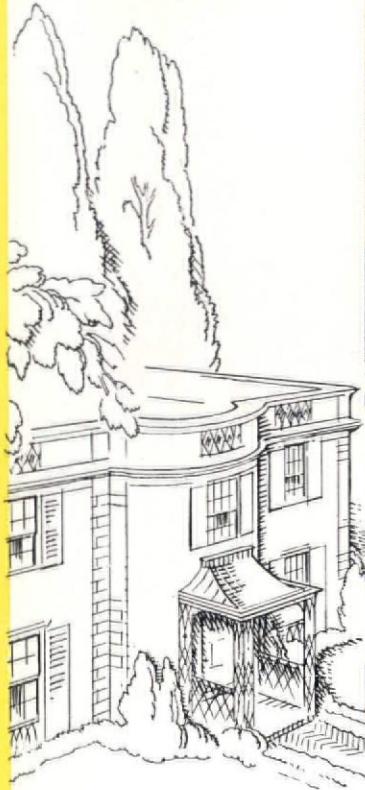
Because slaves, working for their bed and board, constructed the original, no one could estimate its cost, but a stone facsimile today would cost \$156,000,000; and a steel and concrete one, \$15,000,000.

Although it will probably never be built, even with PWA funds, L. Andrew Reinhard is of the opinion that if it were, it would be fine company for the Park's Egyptian Obelisk.



*"From Trees to Tribunes," a series of mural panels painted on zebra wood by Clara Fargo Thomas for the New York office of Col. Robert R. McCormick, publisher of the Chicago Tribune. Critics praised Mrs. Thomas's new technique; the public peered at the portrayal of the proverbial news item, a man biting a dog*





HERE IS an example of the possibilities offered by Carrara in kitchen design. Long panels of Jade Carrara separated by narrow strips of White Carrara, with Black and White Carrara trim at floor, ceiling and windows, give this kitchen unusual life and sparkle. When in New York, we suggest that you see this room in the Regency model house built by W. & J. Sloane in their Fifth Avenue store.

# You'll Welcome CARRARA as a BETTER-LOOKING, MORE PRACTICAL WALL MATERIAL FOR KITCHENS

NOW that Carrara Structural Glass is available in thicknesses suitable for residential use, and at a price comparing favorably with that of more ordinary materials, the question of how to design kitchens that are outstandingly beautiful and still eminently practical is easily answered.

You will find Carrara an ideal wall material for kitchens. Because its bright surface beauty, reflectivity, and soft color-tones offer endless possibilities for new treatments and new effects. Because Carrara is so especially fitted to meet the practical requirements of kitchen walls.

Carrara can be depended upon to retain its original beauty year after year. It does not check, craze or stain. It does not absorb cooking odors. It is unaffected by the grease and grime that usually collect upon ordinary kitchen walls. And it can be kept absolutely clean by merely wiping it periodically with a damp cloth.



## CARRARA

→→→ *The modern structural glass* ←←←

A PRODUCT OF THE PITTSBURGH PLATE GLASS COMPANY

# CARRARA WALLS SET A NEW VOGUE IN

## Bathroom Design

THOUSANDS of visitors to the World's Fair in Chicago have seen how effectively Carrara, the modern structural glass, was used in the model homes exhibited there. Other thousands are seeing the beautiful Carrara installations in the model Sloane house in New York City. And architects are discovering that Carrara Walls are peculiarly suited for use in the bathrooms of average modest homes.

No other wall material can match Carrara's beauty of surface, its reflectivity, its depth and uniformity of color-tones. And yet, Carrara Walls are essentially

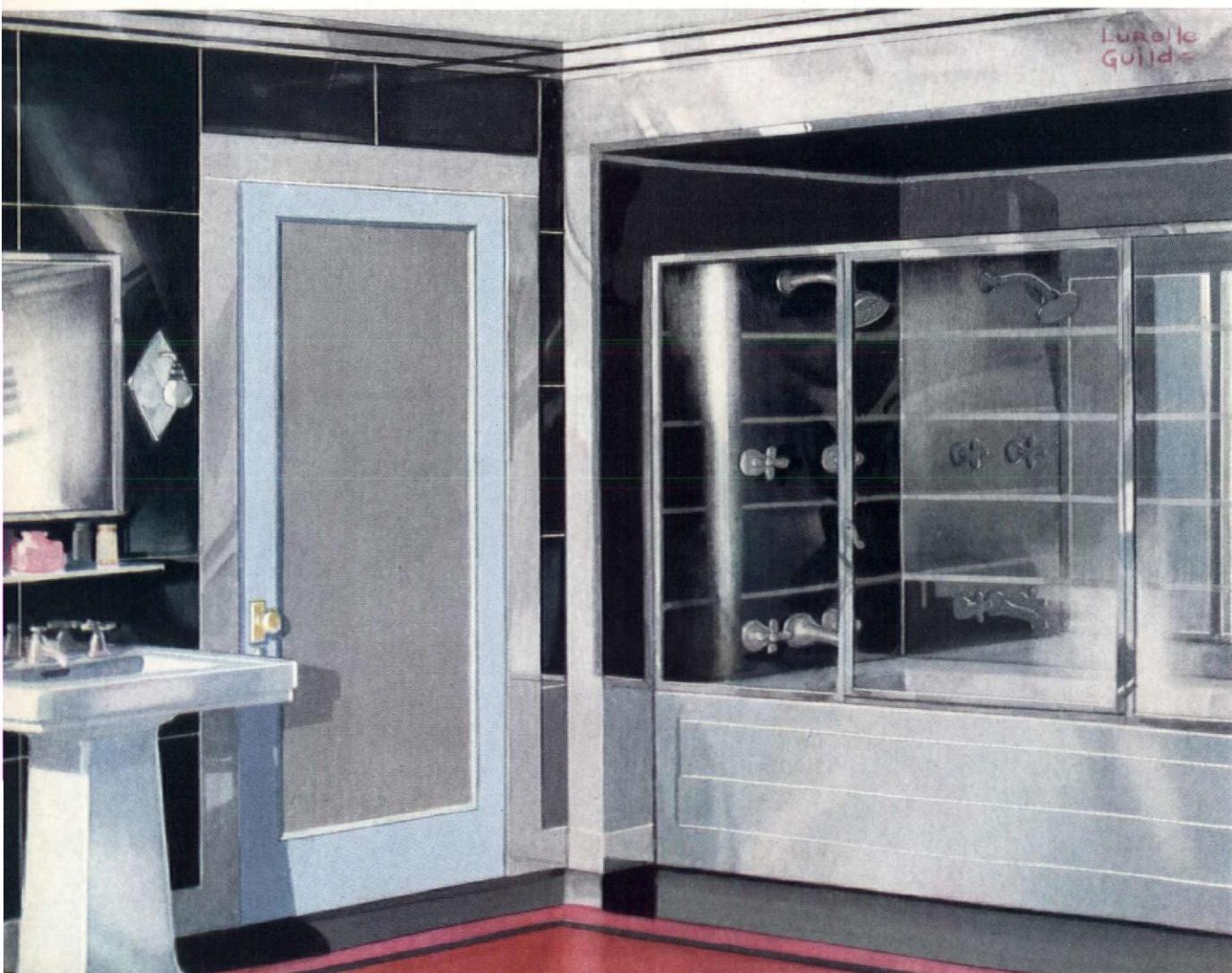
practical. They do not check, craze, stain, absorb odors or change color with age. They can be kept clean and resplendent by merely wiping them occasionally with a damp cloth. They are easily installed, because Carrara Structural Glass handles just like marble. And they cost little, if any, more than walls of vastly inferior materials.

You will be interested in our new folder containing illustrations of typical Carrara installations. We will send it to you upon request. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.

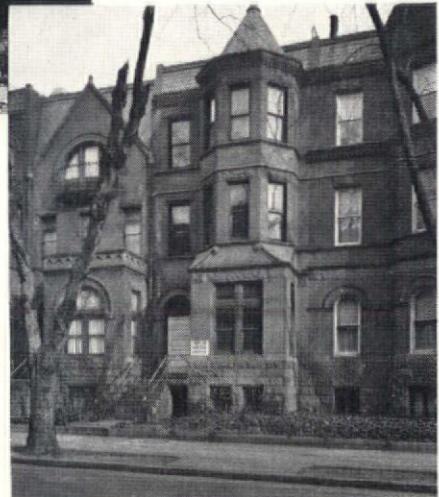
## CARRARA

→→→ *The modern structural glass* ←←←

A PRODUCT OF THE PITTSBURGH PLATE GLASS COMPANY



HERE IS the bathroom in the model Regent house, designed by House and Garden and built by W. & J. Sloane in their Fifth Avenue store, New York. The room, finished in Black Carrara with accent trim of soft Gray Carrara, is an excellent example of how even small bathroom can be made unusually attractive by the use of Carrara.



## Why Try To Live a 1934 Life In an 1880 House?

Most things when they become obsolete land in the junk pile. Many houses, however, become antiquated before they are worn out. They can be remodeled into attractive, convenient, liveable buildings—with the help of an architect. » If you have a house that is obsolete, consult your architect. He will tell you frankly whether the old structure is sound and can be converted into a modern home. The picture above shows what magic he can perform. Few major revisions were necessary in this transformation effected by Architect John J. Whelan. Bought originally for \$7,000, it sold when remodeled for \$21,000. » Dated houses have small mortgage value. After modernizing they are easier to sell . . . easier to rent . . . and above all, easier to live in.

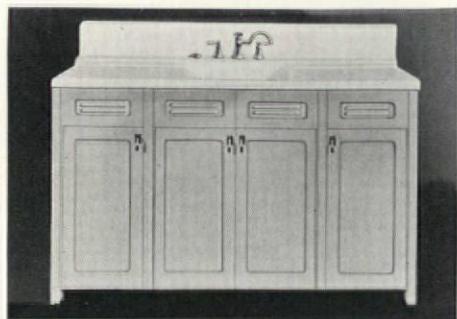
*Send for "New Houses From Old", over 50 photographic stories proving that architects are magicians. Copies, 50¢ each, can be obtained by writing to THE ARCHITECTURAL FORUM, 220 East 42nd Street, New York, New York.*

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Double-ledged type of Kohler cabinet sink

kitchens. In the cabinet space beneath, there is a special ventilated compartment for vegetables. Other features are the narrow rim, bringing the compartment close to the front of the fixture, a toe recess at the base, a 3-inch integral ledge across the back, disappearing spray hose for rinsing. The basin itself is 8 in. deep. Three of the four models have 8 in. ends to protect walls or built-in cabinets from splashing.

Besides the vegetable compartment, the cabinet contains space for utensils and a swing arm container for garbage. Air enters the cabinet through holes at the bottom and leaves through louvers at the top. For further information, address the Kohler Company, Kohler, Wis.

## GENERAL ELECTRIC INSTITUTE

A CENTER of information and advice for professional and commercial users of electric equipment, the new General Electric Institute was opened December 22 at Nela Park, Cleveland. Architects and others are invited to make generous use of the facilities offered by its staff of engineers.

## ELECTRIC DOOR OPENER

AS AN economical compromise between hand operation and full motor-driven opening and closing, a new electric overhead garage door opener is available at low cost. Automatic opening only is provided, the door being closed by hand. The device may be actuated from a wall switch, a driveway post, or a driveway plate. It may be installed on old or new doors.

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Complete information, with diagrams, etc., may be obtained from the Barber-Colman Company, Rockford, Ill.



Electric door opener operated from post



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JOHN RUSSELL POPE, NEW YORK, ARCHITECT

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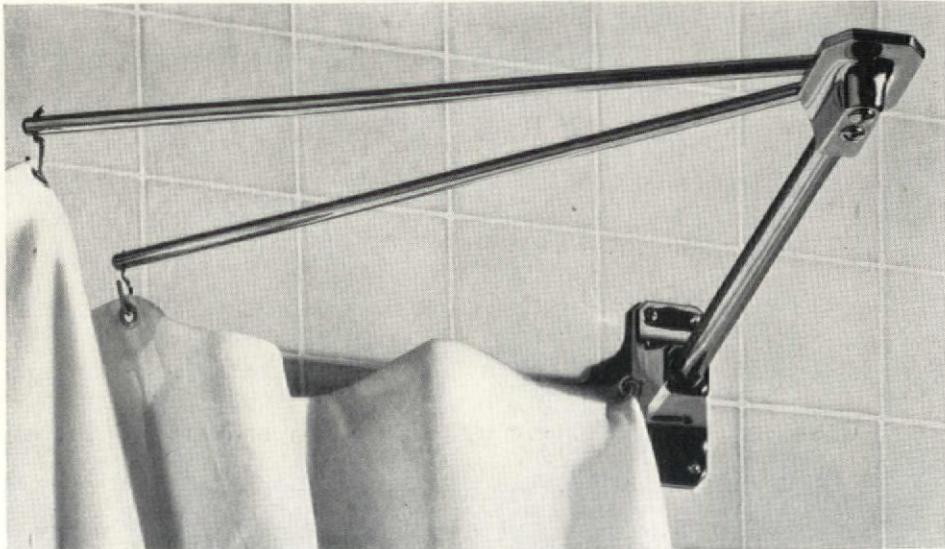
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